

THE ARCHITECTURAL FORUM



FEBRUARY
1927



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The ARCHITECTURAL FORUM

VOLUME XLVI

Established 1892

NUMBER 2

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Contributing Editors:

Harvey Wiley Corbett; Aymar Embury II; Charles G. Loring; Rexford Newcomb; C. Stanley Taylor; Alexander B. Trowbridge.

Published Monthly by

ROGERS & MANSON COMPANY

383 Madison Avenue, New York

Howard Myers, Pres.; James A. Rice, Vice-Pres.; Robert Sweet, Sec. and Treas.; Paul W. Hayes, Asst. Treas.
Yearly Subscription Payable in Advance, U.S.A., Insular Possessions and Cuba, \$6.00. Canada, \$6.75. Foreign Countries
in the Postal Union, \$7.50

Single Copies, 60 cents. All Copies Mailed Flat

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Otto F. Langmann

A QUIET CORNER AT ST. MALO

From a Crayon Drawing by Otto F. Langmann

The Architectural Forum

The ARCHITECTURAL FORUM

Volume XLVI

FEBRUARY 1927

Number 2

House of J. Scott Parrish, Richmond, Va.

WILLIAM LAWRENCE BOTTOMLEY, Architect

By H. S. GILLESPIE

NOT always does the American home of European derivation live up to its fair name when transplanted to our native soil, not from any fault of its own, but rather because of a lack of finesse in making the adjustment and the consequent loss of that allusive quality on which so much of its success depends. For this reason the new home of J. Scott Parrish, of Richmond, Va., a modern adaptation of the Italian by William Lawrence Bottomley, stands out strikingly, for not only has the architect caught the charm of this romantic continental type but he has embodied the more intimate character of the Tuscan villa in the composition. By countless suggestions of structural import and colorful drift he has evolved a house that brings to its compact city site the grace and bloom that time has imparted to those incomparably lovely homes of Italy. And, though employing the most direct means to gain his ends, he has handled his materials in playful mood and given vivacity and animation to a design that is absorbingly interesting. His impressionistic use of color, so potent a factor in the naïve individuality of the Italian dwelling, has enabled him to achieve in this instance a pictorial similarity as well.

The stucco walls, shot through with a diversity of colorful hues, suggest more than all else the warmth of a ripe apricot. Soft gray limestone takes the place of the native *pietro serena*. The sash of the main facade are stained the mellow brown of Italian walnut, and in the other elevations they rejoice in gay colonial blue. The shutters with fixed louvers are of a modified marine blue, while the entire scheme is offset by the more spectacular blue of the wooden gates at the entrance to the drive,—the intense, vibrant color of the Italian skies. So adroitly has Mr. Bottomley blended all these harmonious elements together,—along with the appropriate accessories of planting, such as tall conifers and a host of deciduous shrubs embracing in the selection *ilex* *trenata*, boxwood, laurel, rhododendron and orange trees with their glossy green foliage,—as to form a veritable harmony of form and color. Incidentally, it is this rhythmic quality of Mr. Bottomley's work, as essential to a successful architectural composition as to work in music or painting, that lends

it what seem to be its peculiar distinction and charm.

Mrs. Parrish at the start had in mind a house planned along the lines of the "Southern Colonial" until Mr. Bottomley drew an inviting picture reminiscent of the villas of Tuscany but adapted to suit the needs of modern living. Viewing the mental image in the light of her own artistic perceptions, she succumbed at once to its appeal and lent her enthusiastic consent to the change,—and what is of equal moment to the architect, she has since seen no reason to regret her decision now that the house is built.

The site selected, a plot 65 by 150 feet, in one of the best sections of Richmond, seemed absurdly small for the purpose, but the ease with which the architect solved his problem may be determined by the success of the finished product. Set a little back from the street, the grounds enclosed by the typical stone balustrade and garden wall, the Parrish house, despite the limitations of space, epitomizes the elusive beauty and romantic quality of the sixteenth century Italian villa. Not a little of its native tone is supplied by the picturesque wall, so suggestive of the proverbial inclusiveness of Italian home life, where privacy and seclusion are the most important considerations. A round arched, battened door on the right opens to an informal flagstone path leading to the main entrance. On the left the nail-studded blue gates with imposing stucco piers capped by ornamental stone capitals and finials give admission to the driveway that makes its way past a screen of cedars to the garage at the extreme rear. Each facade is given a lively variety of expression in harmony with the spirit of the design, but the main elevation, dominated by the entrance, is quite naturally the most imposing. Framed in classic pilasters with the unbroken pediment of the late Renaissance, the doorway as the main central motif is framed on either side by narrow windows protected by the stout grilles customarily seen in houses of this character. The delicate lacelike lunette of wrought iron over the door and the graceful rail in the window group above, fashioned in the spirit of the famous ironworkers of Italy, lend emphasis to their beauty.

By way of a spacious vestibule, with coat rooms opening off, the main foyer is reached. Rough fin-

ished walls in apricot and a floor of travertine inset with blocks of black marble supply a setting that brings out the fine proportions of the staircase. Of free-standing construction, its graceful curves give it remarkable lightness and buoyancy, an effect that is augmented by delicate balusters of wrought iron, spaced very far apart and threaded through with a crimson velvet rope, as support to those using it.

Three arches that give admission to the formal rooms add a certain dramatic force to the architectural treatment of the foyer and also lend a palatial air to the interior. The house was not built with the

idea of entertaining on a vast scale, but the rooms are so arranged as to give complete circulation of floor plan, and their disposition was determined by personal preference as also by the special requirements of a hospitable family with a host of friends. The largest unit of floor area is occupied by the drawing room, a stately apartment running across the entire front of the house and reflecting the same architectural good taste as the foyer, with, quite properly, an infinitely more resplendent decorative scheme. Full of rich and colorful detail, the room possesses an air of great tranquillity and enjoys a



Main Entrance Gateway, House of J. Scott Parrish, Esq., Richmond, Va.
William Lawrence Bottomley, Architect

distinction unusual even in the typical Italian salon.

No feature of the dignified interior plays a more important part in the interior treatment than the ceilings, on which Mr. Bottomley has lavished care and thought. The increasing popularity of various types of European architecture in this country has developed a corresponding appreciation for ceilings of a harmonious character, and while the beamed and plaster ceilings of English origin still have their own place, we are today indebted to Italian sources for some of our most sumptuous examples. Most of the ceilings in the Parrish house follow the spirit of

noble examples. Each is a gem of fine woodcraft, and their textural quality and mellow color go far toward supplying the indefinable feeling of age in new work. The ceiling in the drawing room, of Italian walnut, is most impressive, the design centering in a great octagonal motif in blue imposed on a rectangular panel of dull red, surrounded by smaller motifs of the same sort, all traced over with faint arabesques of gold, and crossed at intervals by heavy beams which in turn are upheld by carved corbels.

Against walls of soft pumpkin yellow and gray, gold damask draperies hang from beneath valance



Main Facade, House of J. Scott Parrish, Esq., Richmond, Va.
William Lawrence Bottomley, Architect



DINING ROOM



MANTEL IN DRAWING ROOM
HOUSE OF J. SCOTT PARRISH, ESQ., RICHMOND, VA.
WILLIAM LAWRENCE BOTTOMLEY, ARCHITECT

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FIREPLACE IN STUDY



DRAWING ROOM

HOUSE OF J. SCOTT PARRISH, ESQ., RICHMOND, VA.

WILLIAM LAWRENCE BOTTOMLEY, ARCHITECT



GARDEN FACADE

HOUSE OF J. SCOTT PARRISH, ESQ., RICHMOND, VA.

WILLIAM LAWRENCE BOTTOMLEY, ARCHITECT

February, 1927

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MAIN ENTRANCE
HOUSE OF J. SCOTT PARRISH, ESQ., RICHMOND, VA.
WILLIAM LAWRENCE BOTTOMLEY, ARCHITECT

boards, and old Italian furniture strikes a note of fine contrast. While the fireplace is usually the keynote of a room, it is less important as a controlling factor in the decorative scheme in this instance. The classic chimneypiece is flanked by recessed bookcases of walnut lined with dull terra cotta, but except for two panels painted in the eighteenth century manner either side the door to the foyer, the walls depend upon their own rich finish for ornament. Although the effect of the paintings is to break up the plain wall surfaces, they were introduced for another reason, for one conceals a secret door, so arranged to give convenient access to the hall, on occasions.

Marked by dignity befitting its character, the library adjoining is also noted for a remarkably handsome ceiling in carved walnut and gold, a replica of an example in the *Accademia dei Belliarte* in Rome, while the floor of hexagonal tile with insets of Gothic symbols is a copy of that in the Palace of the Popes at Avignon. Through a broad archway is the dining room, lighted by many tall casement windows, three of them opening onto a 30-foot terrace paved with red tile. Vigorous ceiling treatment is again to be noted here, the style resembling somewhat the famous model in the Davanzati Palace, with closely set rafters of Italian walnut, crossed at intervals by girders, which in turn are supported by heavy corbels.

Particularly successful is the ceiling in the dining

room done in an alluring blue-green. Its interesting effect was produced by floating a soft gray-blue over emerald green, then spraying it over with *quercio*, the brown of Italian walnut, producing an iridescent tone with play of light and shade over the surface at the windows. There are hangings of a golden, rough-textured satin that harmonizes with the sturdy refectory table, the high backed eighteenth century chairs covered with blue brocade, the 1630 credenza used as a sideboard, and the other furnishings. Here, as elsewhere, individually designed lighting fixtures in wrought iron, following Italian precedents are used, valuable adjuncts to the setting.

The remainder of the first floor is given over to the service wing. Mrs. Parrish's rooms are over the dining room, looking out upon the pool and garden. Both Mr. Parrish and Miss Parrish have suites adjoining, and the third floor is given over to maids' and servants' quarters, with the usual accompaniment of trunk room, trunk lift, and linen rooms.

The walls of both the garage and the service wing are treated in decorative fashion with trellises covered with vines and embellished with architectural motifs, including a wall fountain, while the long pool is bordered about by box and encircled by a flagstone pathway, and there are parterres of old fashioned flowers to mingle their hues and perfume with the spicy odor of citrus shrubs and the scent of box.

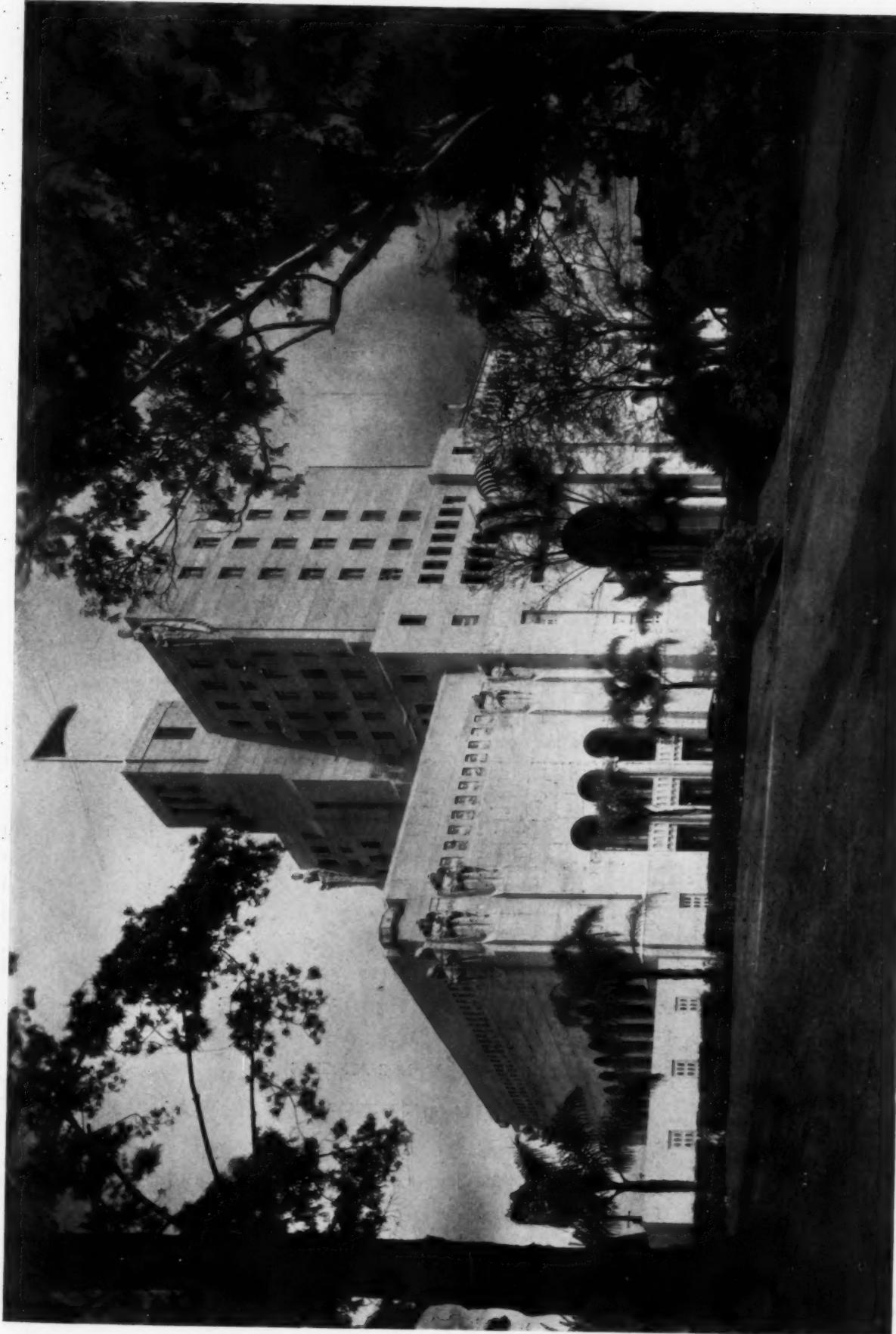


Garden Pool, House of J. Scott Parrish, Esq., Richmond, Va.
William Lawrence Bottomley, Architect

FEBRUARY, 1927

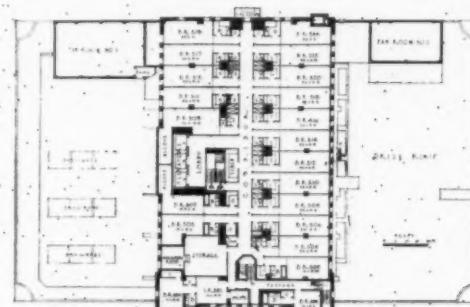
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PLATE 17

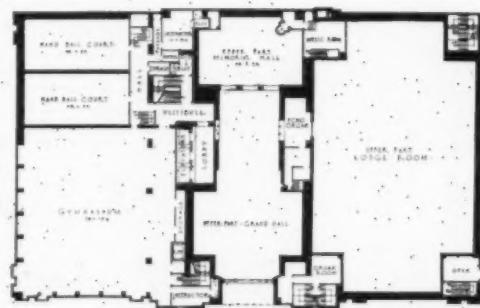


Plans on Back

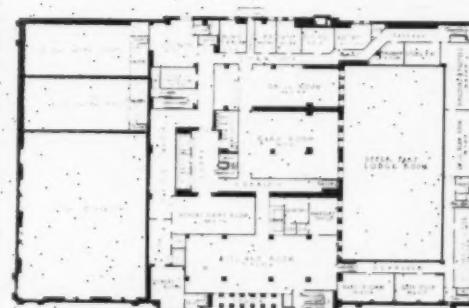
ELKS' BUILDING, LOS ANGELES
CURLETT & BEELMAN, ARCHITECTS



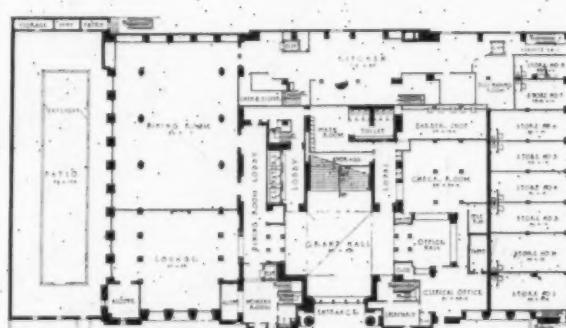
FIFTH FLOOR



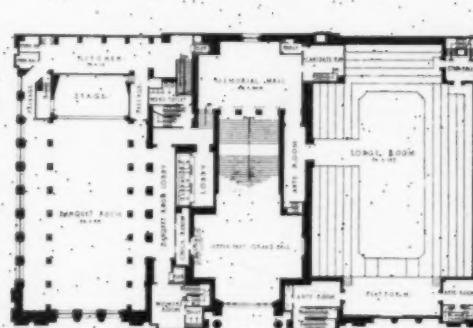
THIRD FLOOR



FOURTH FLOOR



FIRST FLOOR



SECOND FLOOR

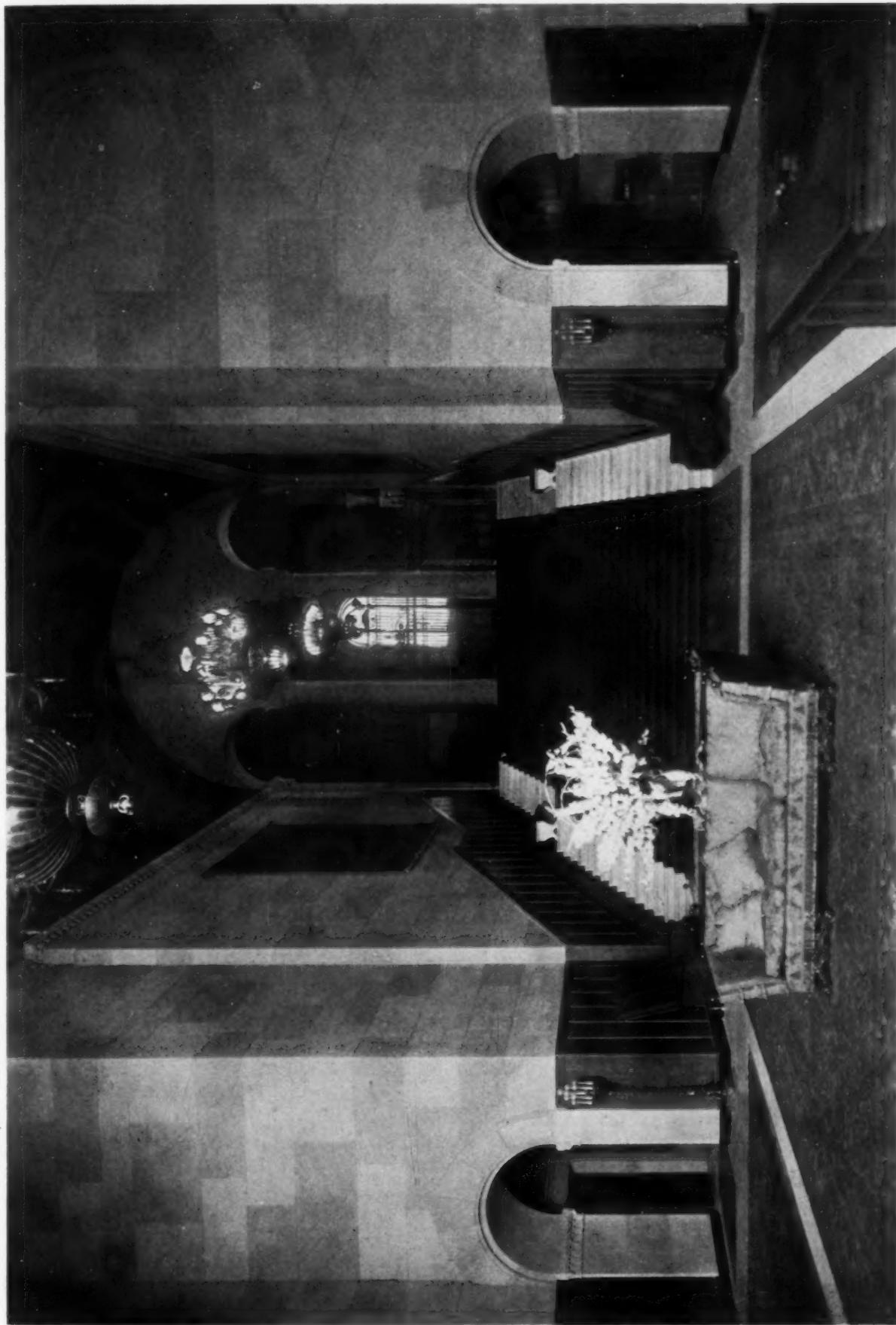
PLANS, ELKS' BUILDING, LOS ANGELES

CURLETT & BEELMAN, ARCHITECTS

FEBRUARY, 1927

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PLATE 18



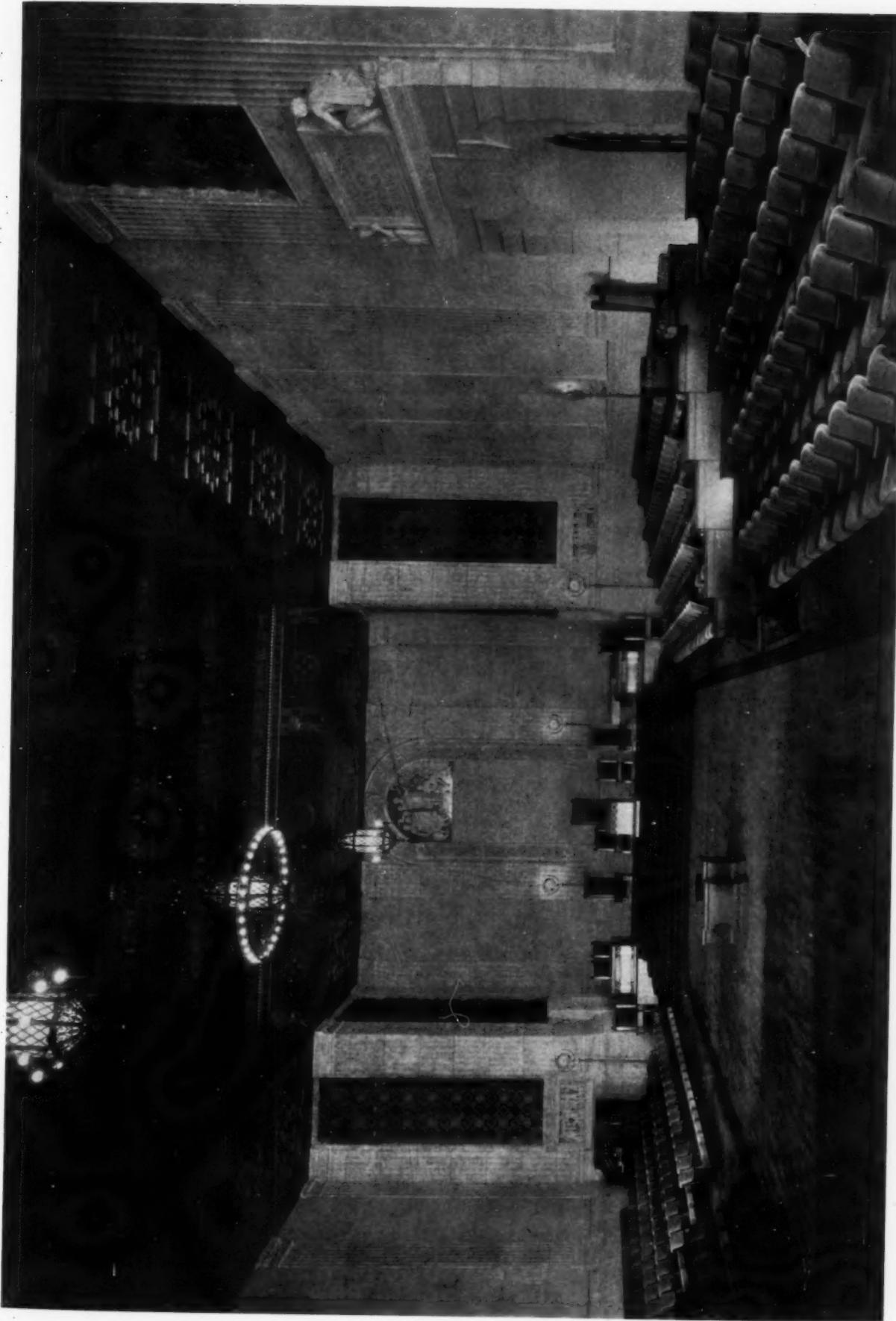
GRAND STAIRWAY
ELKS' BUILDING, LOS ANGELES
CURLETT & BEELMAN, ARCHITECTS



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PLATE 19



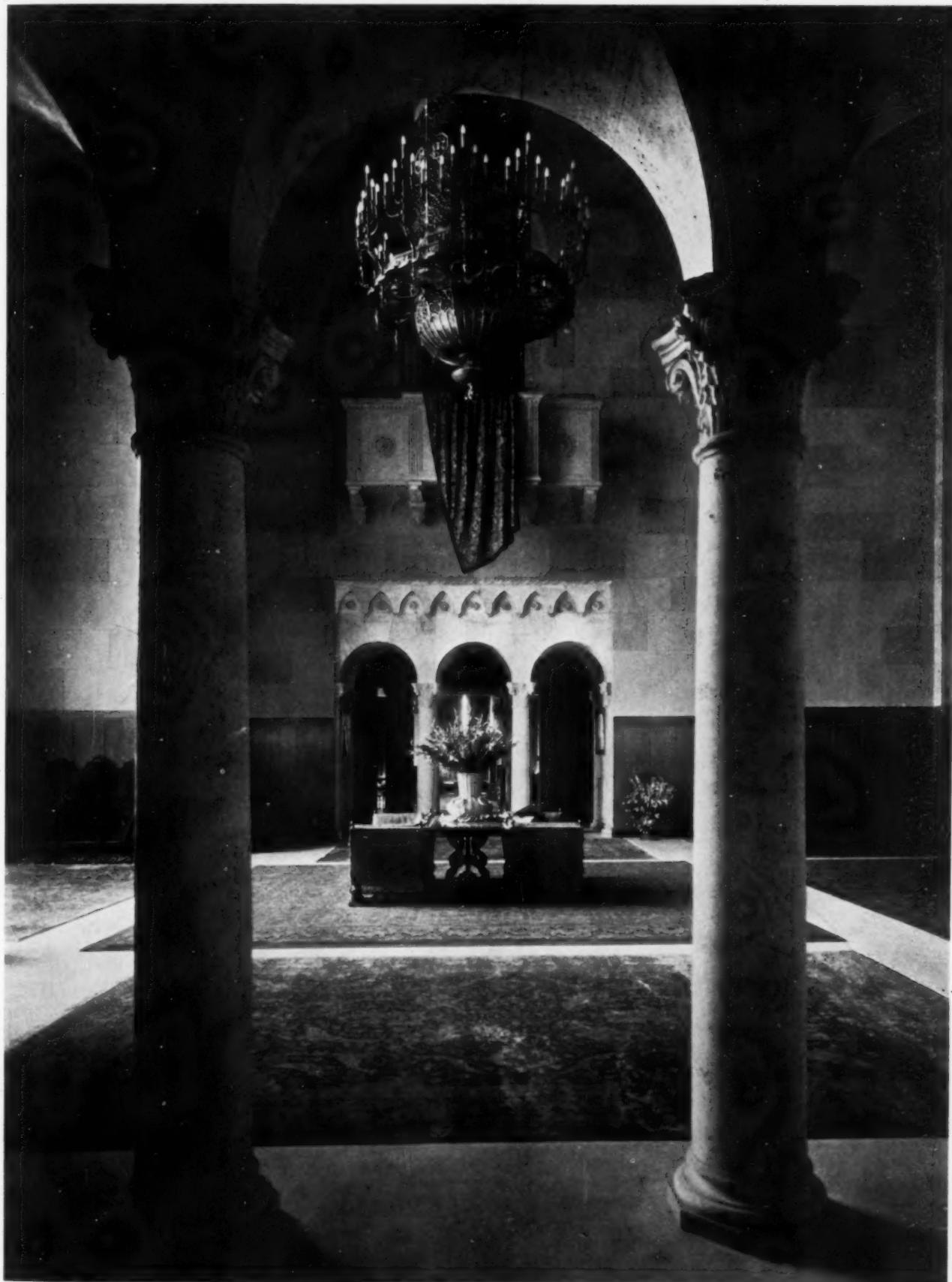
LODGE ROOM
ELKS' BUILDING, LOS ANGELES
CURLETT & BEELMAN, ARCHITECTS



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PLATE 20



FOYER LOOKING TOWARD LOUNGE
ELKS' BUILDING, LOS ANGELES
CURLETT & BEELMAN, ARCHITECTS



FEBRUARY, 1927

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PLATE 21



THE LOUNGE



MAIN DINING ROOM
ELKS' BUILDING, LOS ANGELES
CURLETT & BEELMAN, ARCHITECTS



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PLATE 22



VIEW OF LOUNGE



MEMORIAL HALL

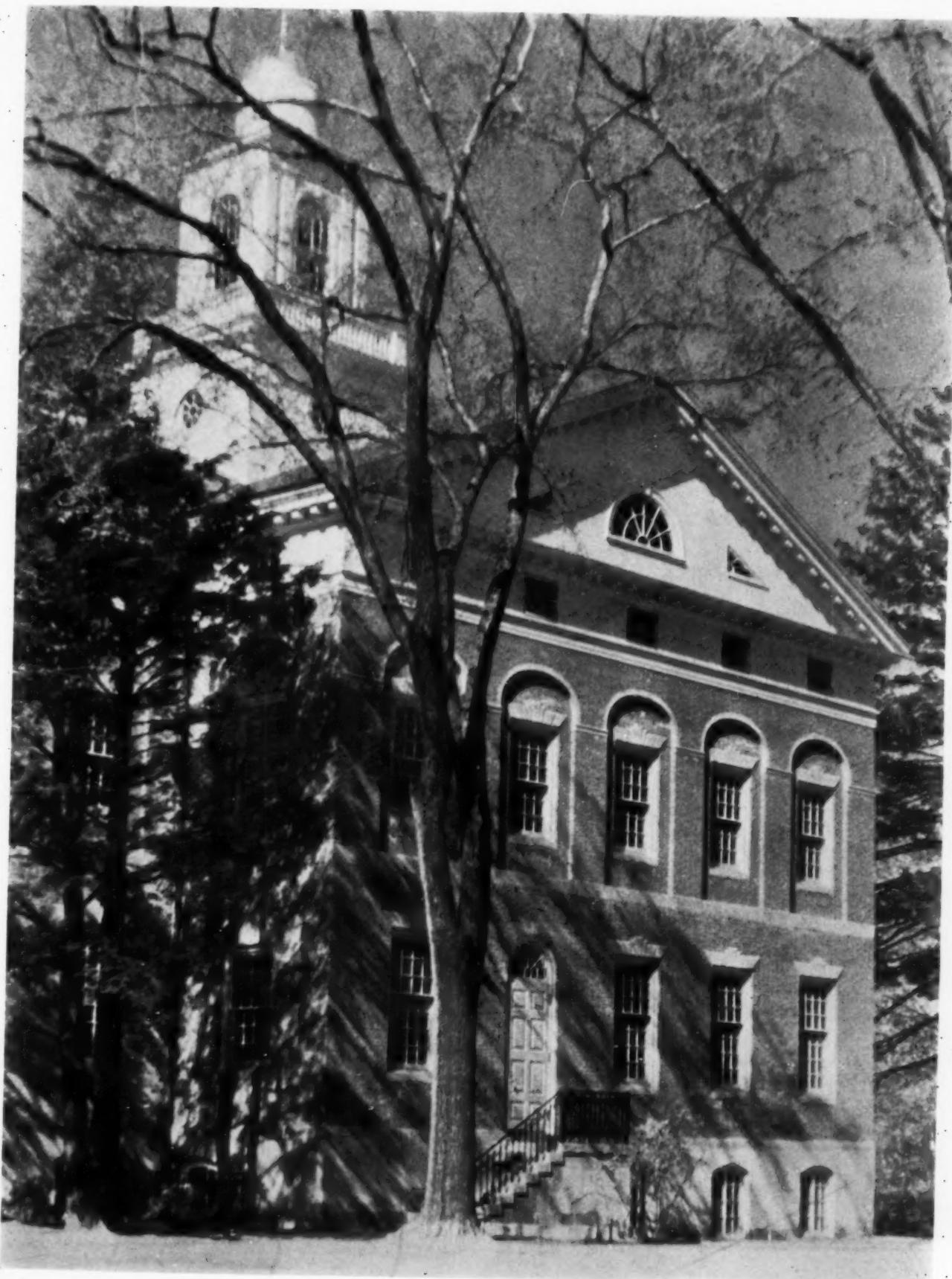
ELKS' BUILDING, LOS ANGELES
CURLETT & BEELMAN, ARCHITECTS



FEBRUARY, 1927

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PLATE 23



MELLON BUILDING, CHOATE SCHOOL
E. P. MELLON, ARCHITECT



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PLATE 24



ENTRANCE, MELLON BUILDING, CHOATE SCHOOL
E. P. MELLON, ARCHITECT



The Mellon Building, Choate School

E. P. MELLON, Architect

THE campus of the Choate School lends itself admirably to use of the Colonial type of architecture, and the grounds are so arranged by nature that they form an immense bowl surrounded by hills. The athletic fields and masters' houses are located irregularly throughout the bowl, to the south of which stands Mr. Cram's recently completed and beautiful chapel, a great work of a great master. The entire grounds are splendidly planted, with magnificent elms predominating. On the hills to the west of the campus stand the administration building, class buildings and dormitories. It was decided to place the new building, the gift of Andrew W. Mellon, on the highest part of this ridge, which gives it a commanding view of the entire campus and surrounding country. It was required of the architect that the building should express the best traditions of New England architecture, and should particularly express the fundamentals of classical Georgian which had been adapted in early American days to New England Colonial. At the same time it was required that the structure, both externally and internally, show a restrained classical treatment.

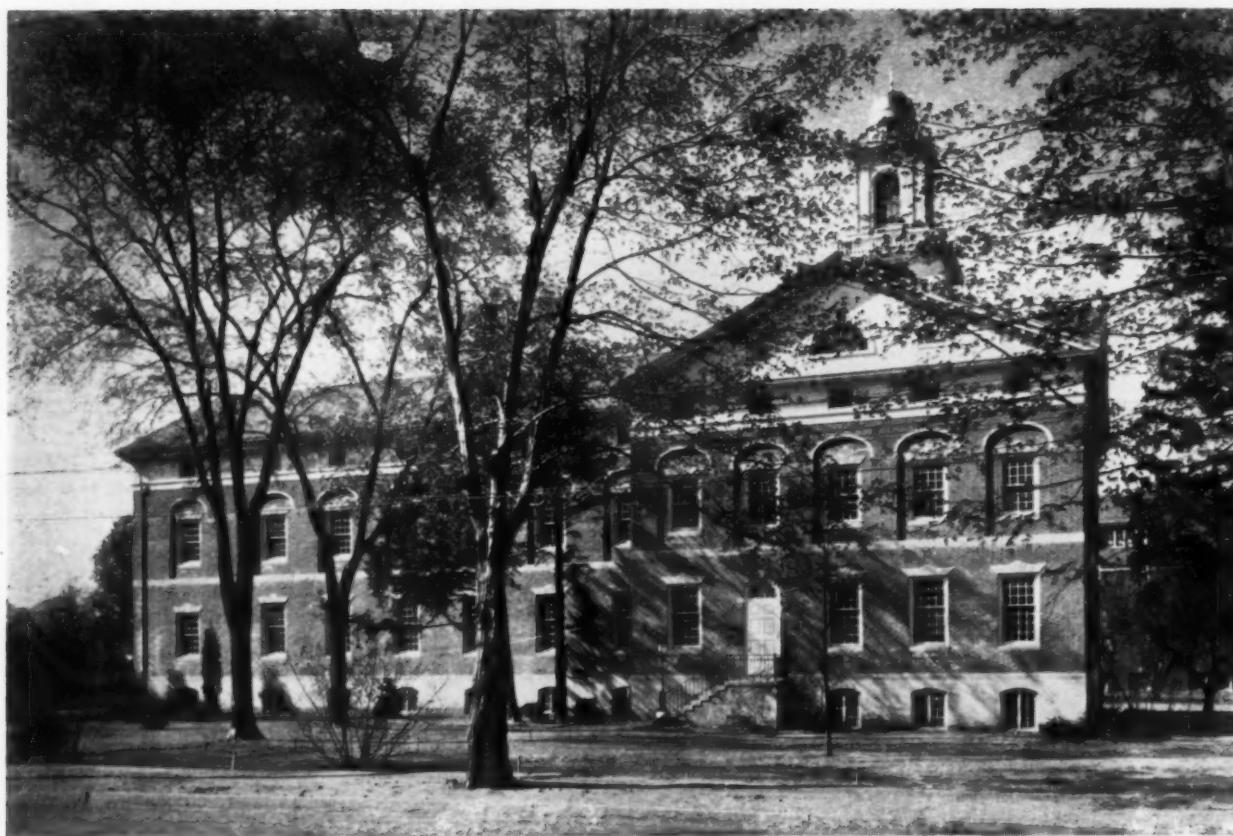
For convenience, it was necessary to connect the Mellon Building with the main administration building, or "Hill House." This has been done by an arcade, which though entirely separating the two buildings gives the required appearance of unity, and also partly encloses a large open and well planted court. The materials of which the structure is built are as far as possible those produced in Connecticut.

The bricks were locally made and have much the appearance of old fashioned bricks formed by hand. The building, it will be noted, is built in the shape of a T. The cupola is placed at the crossing, and as one of the arms is very long, it was necessary to make the cupola sufficiently high to be seen from all points to emphasize the importance of the structure.

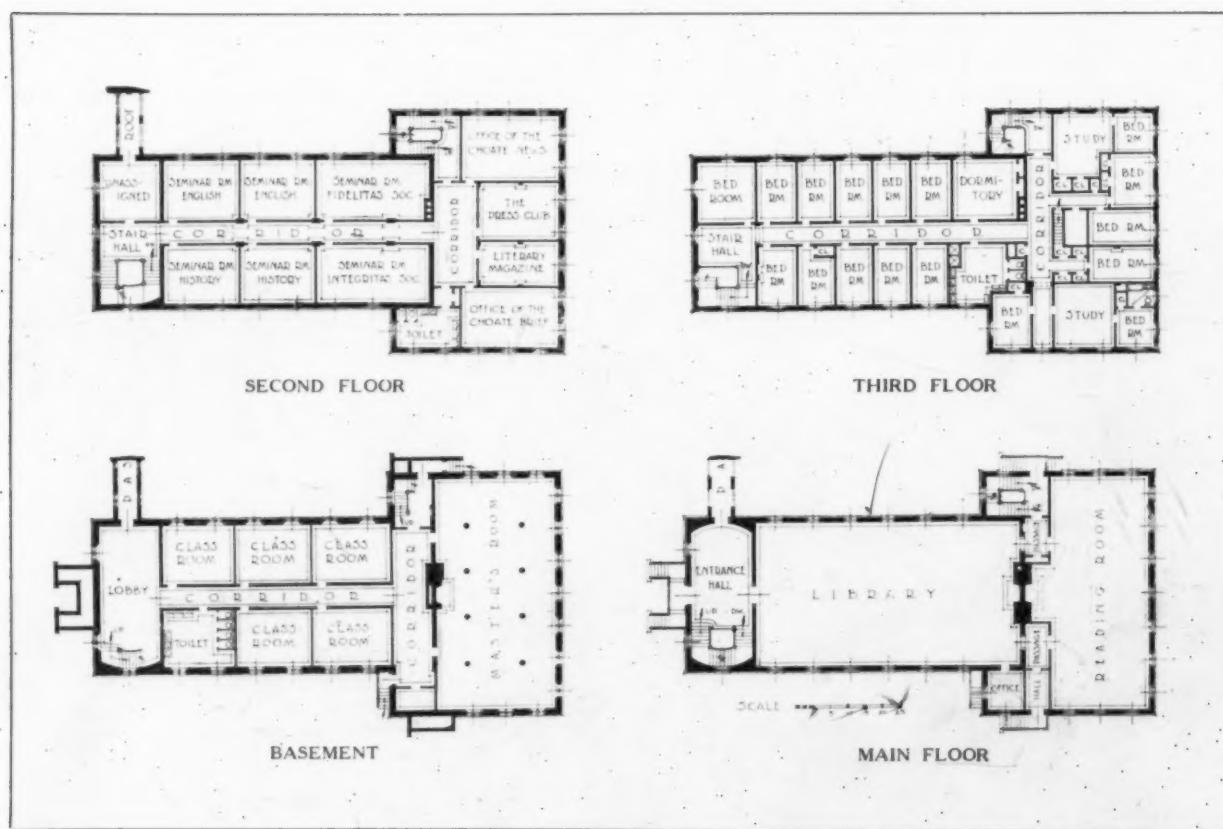
The main floor of the building contains a large entrance hallway with the staircase at one end. The door leading into a large room 43 by 80 feet is directly ahead as one enters. This room was planned as a comfortable, homelike lounging and reading room, as the head master wishes to give to his students as much as possible of a home atmosphere. This room opens into the secondary room, which is, more strictly speaking, the library, and is intended for reading and studying and contains 13 large windows. The woodwork and details of these two rooms are more or less similar, and particularly in the library the colors have been kept subdued in order that there will be nothing to prevent serious study. On the basement floor are a large room for the masters and several rooms for press and editorial work in connection with the *Choate News*. On the second floor are several large, light and airy class or seminar rooms, which are finished and furnished in the simplest manner, and on the upper floor are dormitories and bedrooms. The furnishing and interior decorating of the entire structure, which is the work of Harriet Day Parsons, contribute largely to the attractiveness and convenience of the building.



East Elevation



NORTH ELEVATION



MELLON BUILDING, CHOATE SCHOOL
E. P. MELLON, ARCHITECT

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ARCADED PASSAGEWAY



LIBRARY
MELLON BUILDING, CHOATE SCHOOL
E. P. MELLON, ARCHITECT



MANTEL IN READING ROOM



MANTEL IN LIBRARY

MELLON BUILDING, CHOATE SCHOOL
E. P. MELLON, ARCHITECT

The Forum Studies of European Precedents

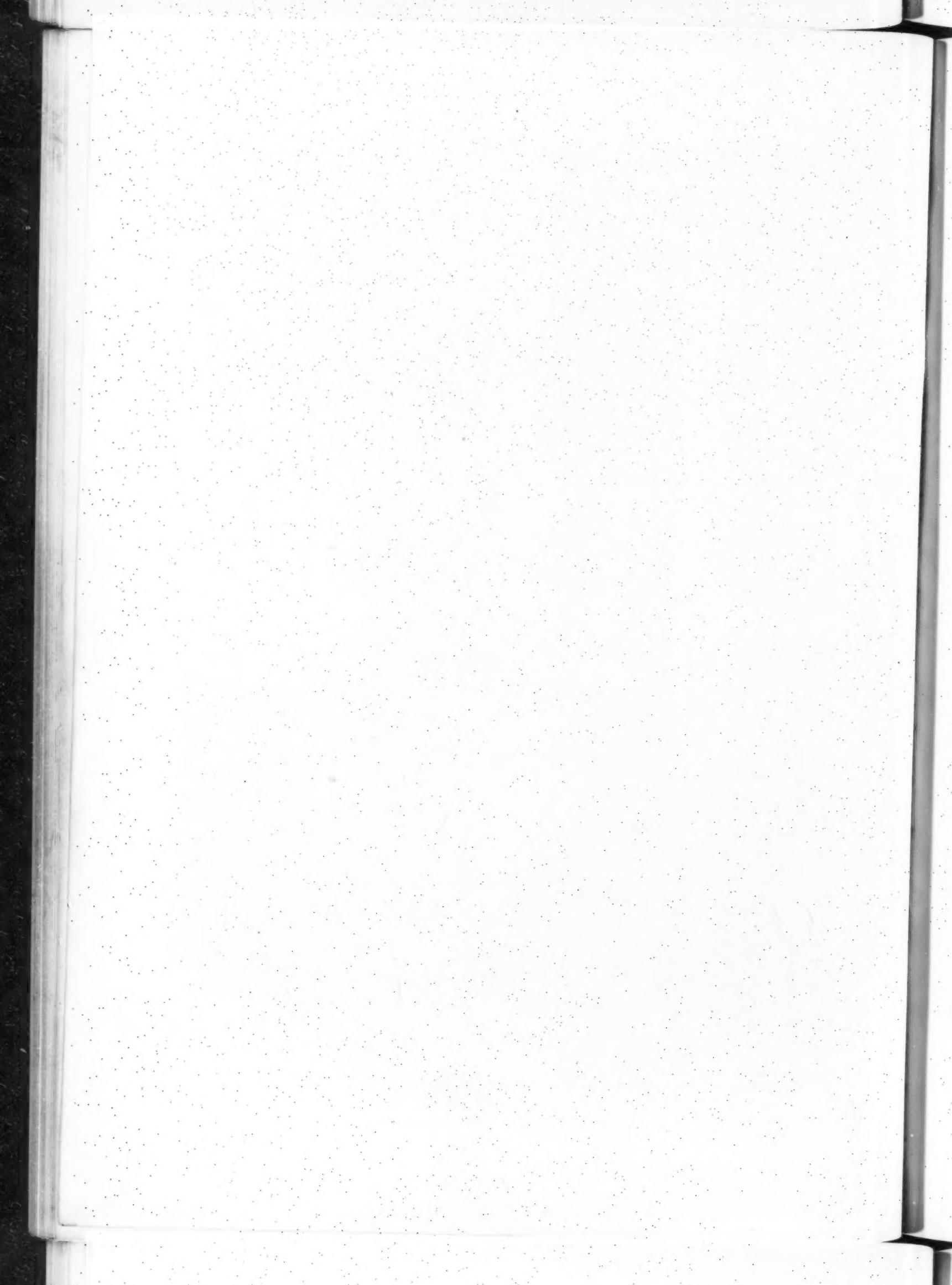
OLD DOORS IN DIGNE



Entrance with Double Doors

THE doorway has always been a feature of special architectural emphasis, and from its function and position it is altogether appropriate that this should be so. The decoration of the doorway has given endless scope for ingenious imagination and invention on the part of the architect from the earliest times, and it still claims his painstaking efforts. But in our solicitude for the embellishment of the doorway, the actual door itself is too often given little consideration.

These illustrations of late eighteenth and early nineteenth century French doors from Digne supply valuable subject matter for reflection on this score and carry with them not a little valuable suggestion and inspiration. In all the instances shown the treatment of the masonry surrounding the doors is exceedingly simple and severe, and in dealing with the trim the decorative instinct has been rigidly suppressed. With one exception (Plate 60), where wood paneling reminiscent of the manner in fashion during the reign of Louis XV is plainly in evidence, all the doors indicate the more austere conceptions of the neo-Classic epoch. It is interesting to note in more than one of these examples that the architectural features which are commonly carried out in stone or wood and project from the faces of the buildings are here set back within the reveals and are treated as parts and continuations of the actual doors rather than as distinct and separate parts of their enframements. This relationship between the door and its framing is carried out consistently in highly decorative wood paneling. In several cases, indeed, it is not easy to distinguish the line of division between the door and its pseudo frame. The pleasing designs shown carry an element of fresh interest which is of considerable importance to designers.





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DOORWAY WITH PILASTERS AND TRANSOM, DIGNE

The Forum Studies of European Precedents; Plate 58





© The Architectural Forum

PILASTERS FORM PART OF DECORATION OF DOOR ITSELF, DIGNE

The Forum Studies of European Precedents; Plate 59





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DOUBLE DOORS, WITH PANELING REMINISCENT OF LOUIS XV PERIOD

The Forum Studies of European Precedents; Plate 60

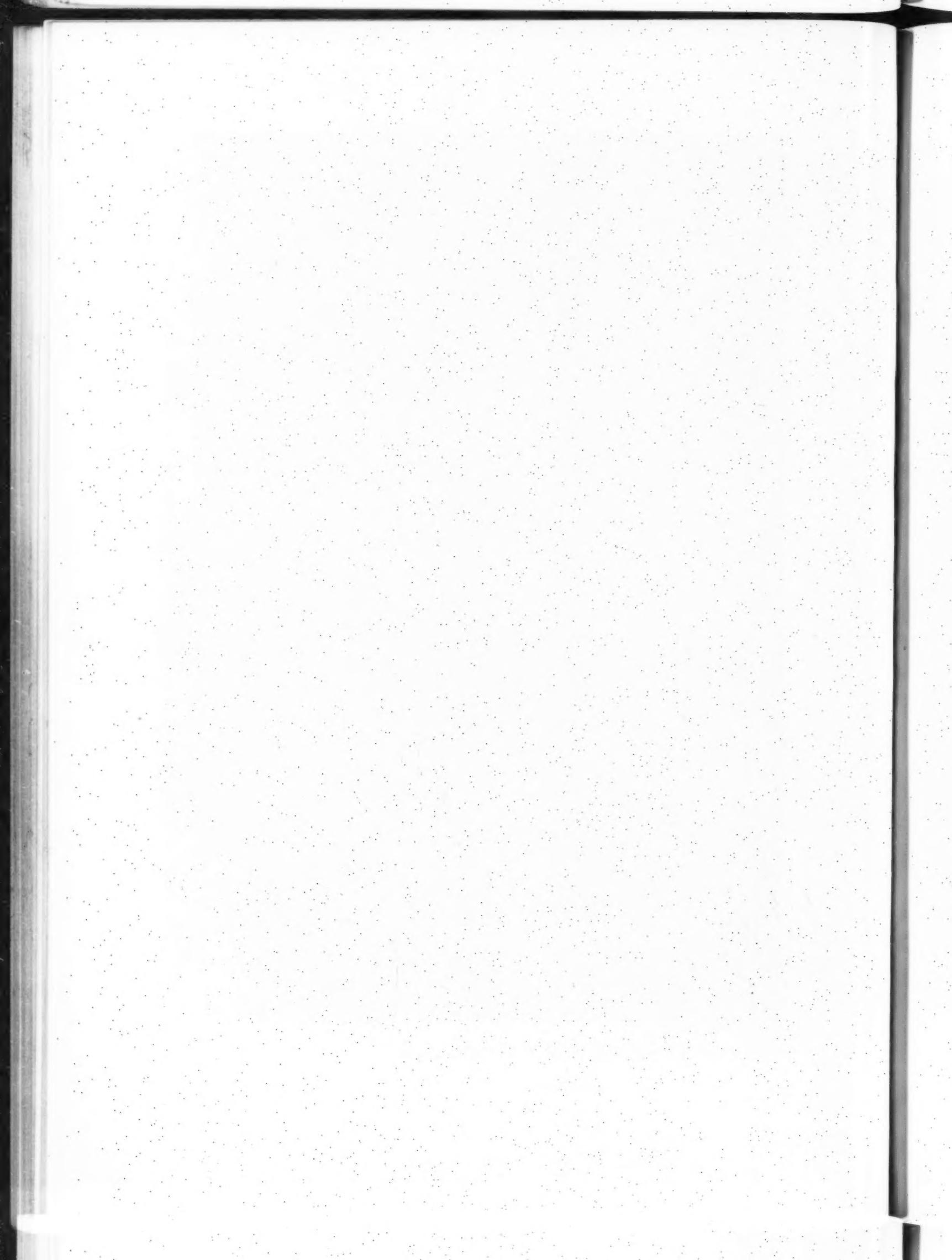


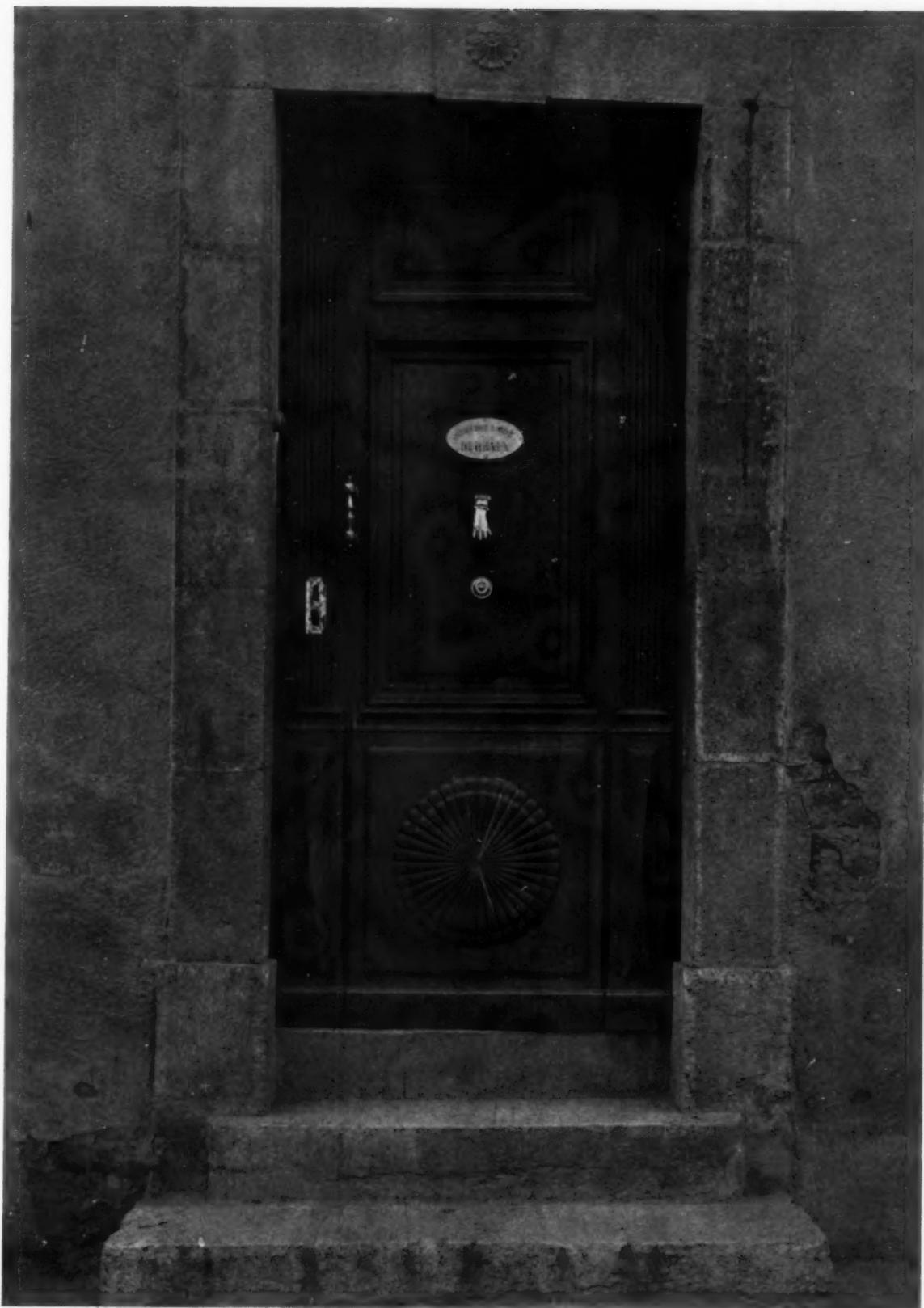


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UNUSUAL DECORATIVE TREATMENT OF TRANSOM, DIGNE

The Forum Studies of European Precedents; Plate 61

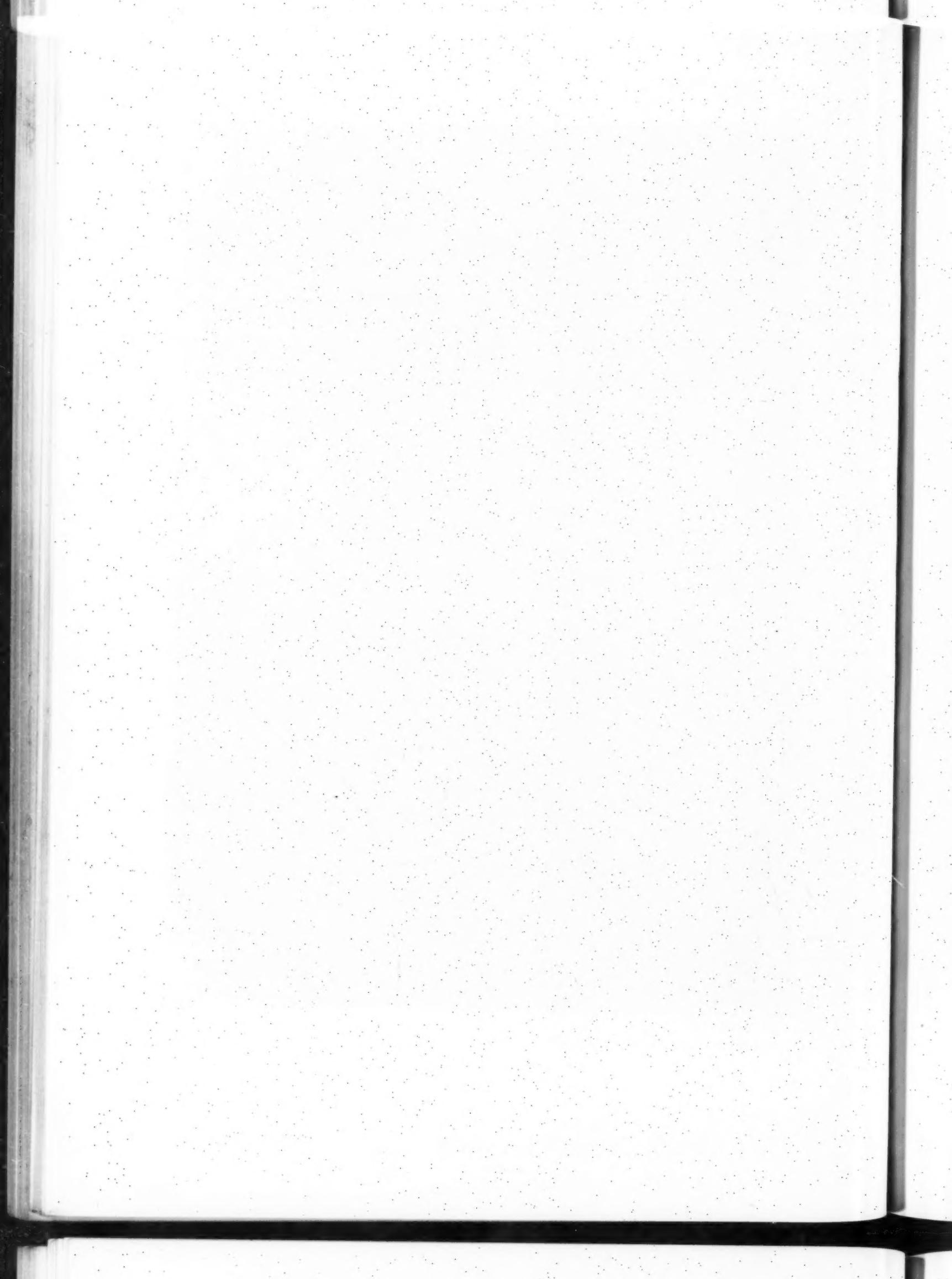




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NARROW PILASTERS ARE PART OF DOOR ITSELF, DIGNE

The Forum Studies of European Precedents; Plate 62

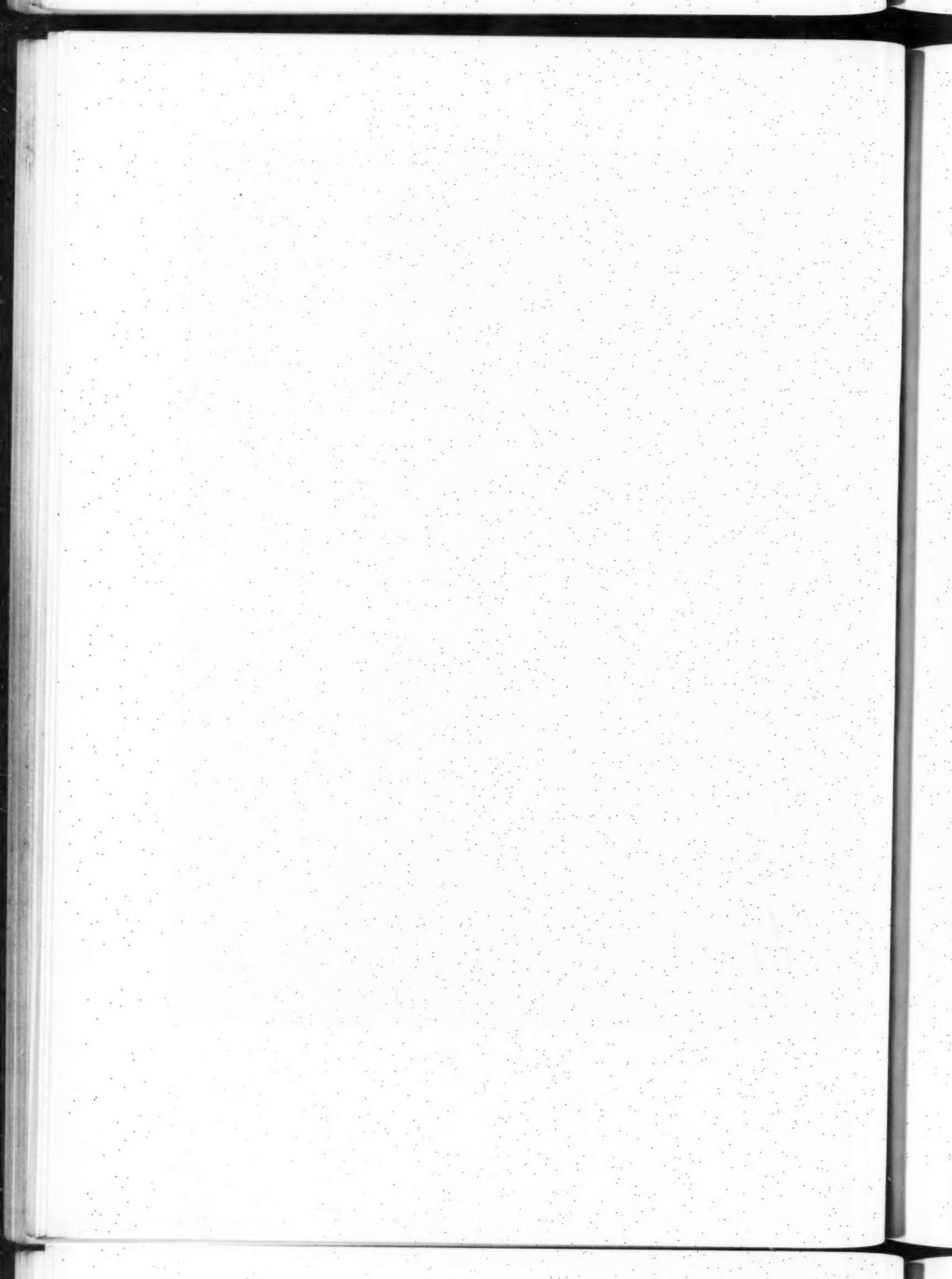




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SIMPLE DOORWAY TREATMENT CHARACTERISTIC OF DIGNE

The Forum Studies of European Precedents; Plate 63

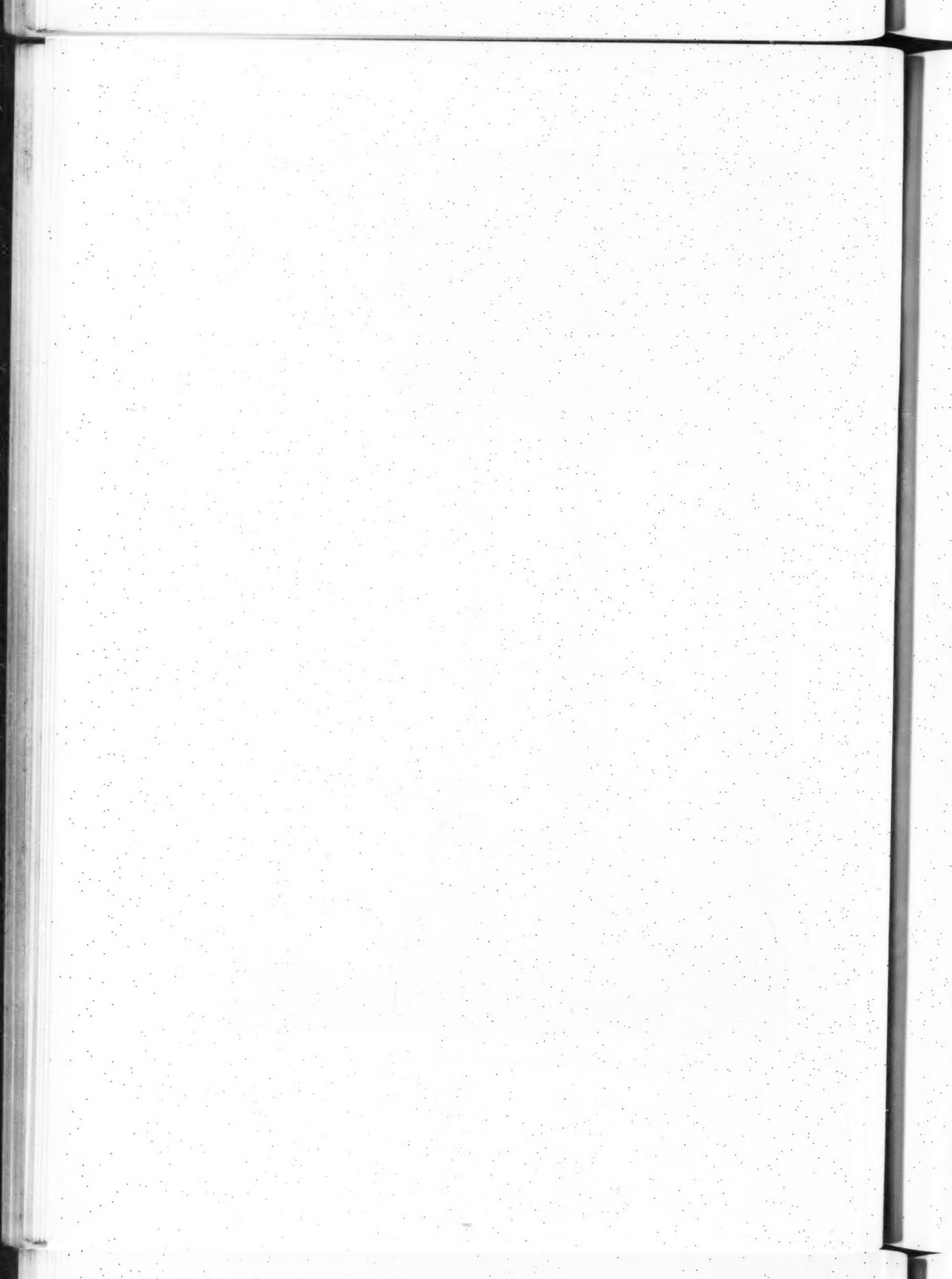




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ANOTHER EXAMPLE OF A TWO-PANELED DOOR WITH NARROW PILASTERS, DIGNE

The Forum Studies of European Precedents; Plate 64



1927 To be Another Active Year for Architects

By C. STANLEY TAYLOR

ACCORDING to all reports received in connection with the Annual Building Survey and Forecast of THE ARCHITECTURAL FORUM, it is quite apparent that the architects of the United States are to enjoy another active and prosperous year. From all indications, while 1927 will not show as great an expenditure for new buildings as 1926, it is evident that the general demand is for new construction in the better types of buildings, and that a greater proportion of the total expenditure for new building will require architectural supervision than was shown by the records for 1926. In other words, a considerable part of the reduction in the national program will be taken from construction in the cheap, speculative field, which as a rule does not employ architects on an interesting or satisfactory basis. The trend is toward better building.

These pages present full details of THE ARCHITECTURAL FORUM's Building Forecast for 1927. It is believed that architects will be definitely interested in this information, which perhaps foreshadows activity in individual offices. The closing figures of the year 1926 show an astounding total national expenditure of well over \$6,000,000,000 in new building construction. Including alterations and unrecorded transactions, this total probably measures over \$7,000,000,000, thus establishing for the past year an unprecedented record of construction activity and one which probably will be unequaled for many years to come. When the figures were tabulated for 1925, it was felt that that year had probably established a total which might never be equaled, and while the conservative forecasts for 1926 promised another \$6,000,000,000 building year, it was not believed by anyone that this figure would be as greatly exceeded as it has been. Similarly, it is difficult to believe that the year 1927 will record as great a national building investment as that of 1926. All indications point to the fact that while 1927 will probably prove to be one of the great years in building history, its total investment in new building construction will be approximately 12 per cent less than in 1926. In other words, the forecast of THE ARCHITECTURAL FORUM, based on an extensive survey as explained in later paragraphs, indicates for 1927 a total of about \$6,000,000,000 as opposed to the \$7,000,000,000 record of 1926 for the United States.

For several years past, THE ARCHITECTURAL FORUM has carried out a comprehensive survey among architects, obtaining over 2,000 confidential reports of work actually on the boards or confidently expected to reach the contract stage during the following year. Having these actual figures in hand, it has been found possible to apply a series of ratios which have resulted each year in a fairly close approximation of actual figures as ultimately recorded. Primarily, of course, this forecast deals with work carried out through architects' offices,

but with the exception of small residential work (houses costing under \$10,000) and factory structures, the bulk of the building of this country is controlled by architects. To the figure established by new work there must, of course, be added an estimate covering remodeling and alterations. This is discussed in more detail in later paragraphs. For those who wish to review and compare building activity since 1915, there is shown herewith a graphic chart recording monthly totals of plans filed, contracts let, and the volume of new building as measured in cubic footages. There is shown also an index of building costs which offers an interesting comparison with activity during any period of the past. A study of the building industry in thus possible.

In order that some detailed measure may be had of anticipated building activity during the year 1927, the architects' reports received by THE ARCHITECTURAL FORUM have been correlated and weighted for presentation in the accompanying table which shows the expected activity in 19 types of buildings, allocated to six divisions of the country. This tabulation shows a total of \$4,856,817,500, which it is believed represents the approximate value of the new construction which will be planned and carried out in 1927 through architects. In addition to this, there will be several hundred million dollars expended for small residences in suburban and rural districts, only part of which comes within the architect's scope of service, together with a large volume of industrial building and a considerable program of remodeling, a part of which is handled by architects, but which is not recorded in this table. In total, therefore, the forecast for 1927 exceeds \$6,000,000. It is quite probable that a considerable part of the decrease in building activity in 1927 as compared to that of 1926 will be found in the cutting down of cheap speculative building. From important mortgage money sources it is learned that the constantly growing tendency is to discourage flimsy construction, and the supervision of specifications has been developed to a considerable degree of efficiency as compared to the poor methods of control exercised in past years. Good building is now more general.

Of course, one of the principal reasons for the great volume of building activity during 1926, and as anticipated for 1927, is the demand of the public for better housing of all kinds and for a more modern and attractive environment in which to carry on commercial and institutional activities. We must also take into consideration the rapid establishment of new residential districts (due to transportation improvements) and the growing developing of new business centers in the larger cities,—areas where certain forms of business are becoming concentrated. This tendency is noteworthy not only in New York but in practically all of the larger cities in the country. Coupled with these greatly im-

proved standards of social and commercial housing conditions there is the significant fact that a continued period of prosperity has placed the public in a position to pay for what it wants in the way of new buildings, a condition upon which much depends.

In spite of occasional comments, there appears at present to be no great danger of overbuilding, because after all the building demand of this country is not primarily for space alone; but for space of a satisfactory quality. Here, then, we find conditions which are certainly discouraging from the viewpoint of owners of old buildings, particularly those which physically or because of local conditions are approaching the state of obsolescence. The competition of new buildings will naturally be too great to sustain values in old structures, but it is probable that the new buildings themselves will not suffer materially except in isolated instances where there exists temporary satiation. In certain districts in New York, it may be said that 1926 has seen an overbuilt condition in certain types of buildings, such for instance as in the so-called "garment center" and in the office building situation in the Grand Central zone. While space competition is definitely in view in these districts, it is probable that this condition is likely to last only a year or two, and that all of this modern manufacturing and commercial area will be readily absorbed by developing industrial and commercial needs for space in the near future.

From the architects' viewpoint, one of the most interesting phases of any building forecast is to be found in attempting to measure the change in public

demand for new buildings, both as to building types and geographical divisions of the country. The figures of THE ARCHITECTURAL FORUM's forecast have been carefully analyzed in order that a comparison may be made with the public demand for various types of buildings as expressed in January of 1926. The tabulation included shows in detail the change in demand in 19 building types and six divisions of the country, as well as the national total.

A COMPARISON OF PUBLIC DEMAND FOR NEW BUILDINGS AS SHOWN IN 1926 AND 1927

The figures given here apply to projects as reported by architects and represent the percentage of the valuation of each building type as compared with the total value of projects for the district.

UNITED STATES

Type of Building	Requirements for New Buildings by Percentage		
	1926	1927	Change
Automotive	2.7	2.8	+ .1
Banks	3.3	3.3	
Apartments	10.8	12.5	+ 1.7
Apartment hotels	3.4	4.3	+ .9
Clubs, fraternal, etc.	4.6	4.3	- .3
Community and memorial	2.7	2	- .7
Churches	5.1	6.5	+ 1.4
Dwellings (under \$20,000)	4.1	2.4	- 1.7
Dwellings (\$20,000 to \$50,000)	2.3	2.4	+ .1
Dwellings (above \$50,000)	1.5	1.9	- .4
Hotels	10.5	6.9	- 3.6
Hospitals	5.5	5.6	+ .1
Industrial	8.7	7.3	- 1.4
Office buildings	11.9	12.7	+ .8
Public buildings	4	5.6	+ 1.6
Schools	12.4	11.7	- .7
Stores	2.2	2.2	
Theaters	3.1	3.9	+ .8
Welfare, Y. M. C. A., etc.	1.2	1.7	+ .5

1927 Prediction by Districts in 19 Building Classifications

BUILDING TYPES	N. EASTERN STATES	N. ATLANTIC STATES	S. EASTERN STATES	S. WESTERN STATES	MIDDLE STATES	WESTERN STATES	U.S.A.
Automotive	\$8,605,000	\$37,070,000	\$8,887,500	\$8,735,000	\$52,365,000	\$21,470,000	\$137,132,500
Banks	16,000,000	81,425,000	4,485,000	6,700,000	41,050,000	8,997,500	158,657,500
Apartments	21,757,500	331,602,500	14,500,000	25,317,500	157,047,500	57,775,000	608,000,000
Apartment Hotels	6,337,500	117,362,500	5,562,500	5,675,000	48,150,000	25,150,000	208,237,500
Clubs, fraternal, etc.	11,882,500	62,362,500	9,687,500	12,395,000	73,667,500	37,845,000	207,840,000
Community and memorial	4,337,500	29,570,000	1,112,500	18,815,000	31,275,000	11,522,500	96,632,500
Churches	39,345,000	99,840,000	12,937,500	35,402,500	90,960,000	36,415,000	314,900,000
Dwellings (Under \$10,000)	8,555,000	40,607,500	7,925,000	12,990,000	31,867,500	13,875,000	115,820,000
Dwellings (\$10,000 to \$50,000)	7,925,000	39,687,500	6,095,000	11,940,000	38,737,500	12,095,000	116,480,000
Dwellings (Over \$50,000)	8,075,000	33,520,000	2,212,500	5,915,000	29,220,000	11,387,500	90,330,000
Hotels	20,970,000	92,442,500	25,762,500	37,725,000	92,950,000	66,917,500	336,767,500
Hospitals	17,850,000	126,937,500	7,850,000	18,465,000	78,222,500	23,622,500	272,947,500
Industrial	42,362,500	134,205,000	2,415,000	18,555,000	139,455,000	17,797,500	354,790,000
Office Buildings	32,250,000	194,140,000	7,757,500	47,385,000	267,845,000	68,250,000	617,627,500
Public Buildings	28,102,500	102,027,500	6,950,000	10,912,500	65,845,000	56,440,000	270,277,500
Schools	52,900,000	144,950,000	24,770,000	43,325,000	219,080,000	81,215,000	566,240,000
Stores	5,417,500	42,025,000	14,072,500	7,567,500	25,487,500	12,497,500	107,067,500
Theaters	18,637,500	54,747,500	6,995,000	11,012,500	93,367,500	14,892,500	199,652,500
Welfare, Y. M. C. A., etc.	7,425,000	24,167,500	4,262,500	4,745,000	30,537,500	6,280,000	77,417,500
TOTAL VALUE OF NEW BUILDINGS	\$358,735,000	\$1,788,690,000	\$174,240,000	\$343,577,500	\$1,607,130,000	\$584,445,000	\$4,856,817,500

NORTHEASTERN STATES

Type of Building	Requirements for New Buildings by Percentage		
	1926	1927	Change
Automotive	5.4	2.5	-2.9
Banks	4.1	4.5	+.4
Apartments	5.6	6.	+.4
Apartment hotels	1.9	2.	+.1
Clubs, fraternal, etc.	3.5	3.	-.5
Community and memorial	4.	1.1	-2.9
Churches	8.8	10.9	+2.1
Dwellings (under \$20,000)	2.6	3.	+.4
Dwellings (\$20,000 to \$50,000)	2.2	2.	-.2
Dwellings (over \$50,000)	1.6	2.	+.4
Hotels	10.	5.6	-4.4
Hospitals	7.9	4.8	-3.1
Industrial	9.5	11.9	+2.4
Office buildings	8.6	8.9	+.3
Public buildings	4.1	8.	+3.9
Schools	15.3	15.	-.3
Stores	1.9	1.4	-.5
Theaters	1.7	5.4	+3.7
Welfare, Y. M. C. A., etc.	1.3	2.	+.7

SOUTHEASTERN STATES

Type of Building	Requirements for New Buildings by Percentage		
	1926	1927	Change
Automotive	3.	4.6	+1.6
Banks	3.	2.3	-.7
Apartments	12.2	8.4	-3.8
Apartment hotels	3.8	3.2	-.6
Clubs, fraternal, etc.	5.6	5.2	-.4
Community and memorial	1.4	1.	-.4
Churches	5.3	6.9	+1.6
Dwellings (under \$20,000)	6.1	4.	-2.1
Dwellings (\$20,000 to \$50,000)	3.1	4.2	+1.1
Dwellings (over \$50,000)	1.6	1.1	-.5
Hotels	18.	15.	-3.
Hospitals	2.7	5.	+2.3
Industrial	2.	2.	0
Office buildings	11.7	5.	-6.7
Public buildings	6.	4.	-2.
Schools	6.9	13.8	+6.9
Stores	3.4	8.	+4.6
Theaters	2.	4.	+2.
Welfare, Y. M. C. A., etc.	2.2	2.3	+.1

NORTH ATLANTIC STATES

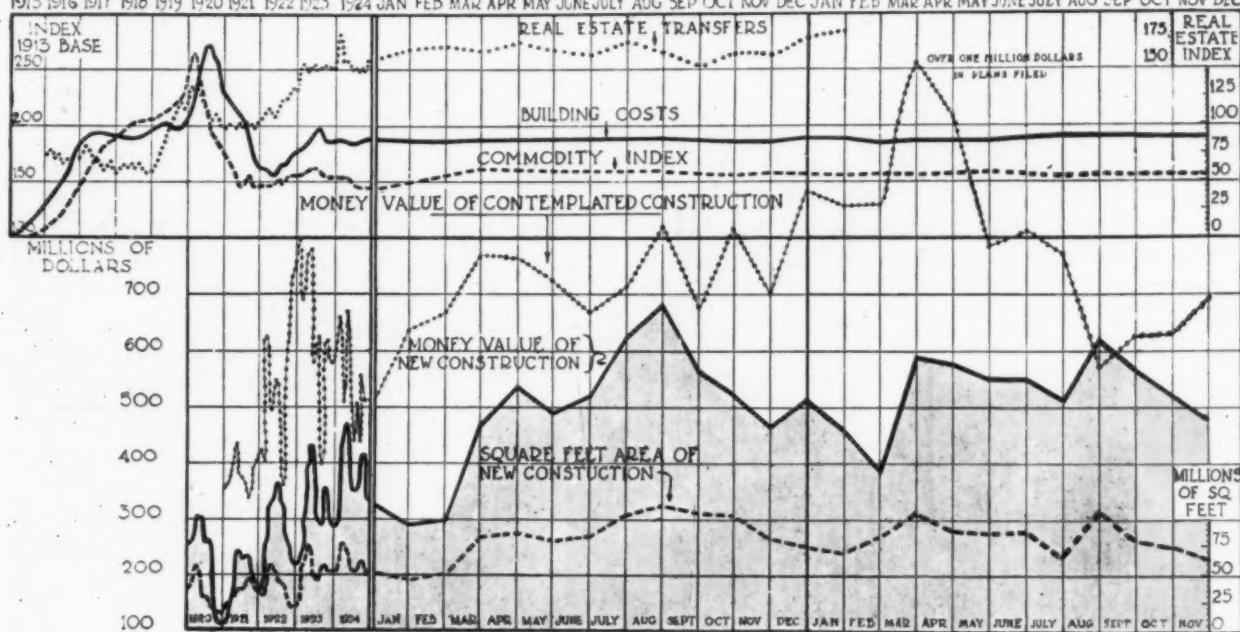
Type of Building	Requirements for New Buildings by Percentage		
	1926	1927	Change
Automotive	2.1	2.1	0
Banks	2.7	4.5	+1.8
Apartments	10.1	18.5	+2.4
Apartment hotels	2.6	6.6	+4.
Clubs, fraternal, etc.	3.9	3.5	-.4
Community and memorial	2.6	1.6	-.1
Churches	3.9	5.6	+1.7
Dwellings (under \$20,000)	5.1	2.3	-.28
Dwellings (\$20,000 to \$50,000)	2.4	2.2	-.2
Dwellings (over \$50,000)	1.4	1.9	+.5
Hotels	6.4	5.2	-.12
Hospitals	5.5	7.1	+1.6
Industrial	12.2	7.5	-4.7
Office buildings	11.8	10.9	+.9
Public buildings	3.9	5.7	+1.8
Schools	12.5	8.1	-4.4
Stores	1.9	2.4	+.5
Theaters	1.3	3.	+1.7
Welfare, Y. M. C. A., etc.	1.7	1.3	-.4

MIDDLE STATES

Type of Building	Requirements for New Buildings by Percentage		
	1926	1927	Change
Automotive	2.8	3.2	+.4
Banks	3.4	2.6	-.8
Apartments	7.8	10.	+2.2
Apartment hotels	4.1	3.	-.1
Clubs, fraternal, etc.	5.3	5.	-.3
Community and memorial	2.2	2.	0
Churches	4.5	6.	1.5
Dwellings (under \$20,000)	2.8	2.	-.8
Dwellings (\$20,000 to \$50,000)	2.	2.4	+.4
Dwellings (above \$50,000)	1.3	1.1	-.5
Hotels	13.7	5.7	-8.
Hospitals	5.	4.9	-.1
Industrial	7.5	8.6	1.1
Office buildings	12.1	16.6	4.5
Public buildings	2.8	4.	1.2
Schools	13.5	13.6	+1.
Stores	2.5	1.6	-.9
Theaters	5.7	5.8	+.1
Welfare, Y. M. C. A., etc.	.7	1.9	1.2

ANNUAL CHANGES

1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 JAN FEB MAR APR MAY JUNE JULY AUG SEP OCT NOV DEC



WESTERN STATES

Type of Building	Requirements for New Buildings by Percentage		
	1926	1927	Change
Automotive	2.3	3.6	+1.3
Banks	3.2	2.	-1.2
Apartments	7.8	9.8	+2.
Apartment hotels	5.6	4.3	-1.3
Clubs, fraternal, etc.	5.2	6.3	+1.1
Community and memorial	3.8	1.9	-1.9
Churches	4.4	6.2	+1.6
Dwellings (under \$20,000)	4.7	3.	-1.7
Dwellings (\$20,000 to \$50,000)	1.4	2.3	+ .9
Dwellings (Over \$50,000)	1.5	1.9	+ .4
Hotels	10.5	11.3	+ .8
Hospitals	7.8	3.9	-3.7
Industrial	3.8	2.9	-.9
Office buildings	14.8	11.6	-3.2
Public buildings	6.	9.6	+3.6
Schools	10.5	13.9	+3.4
Stores	2.3	2.1	-.2
Theaters	3.6	2.4	-1.2
Welfare, Y. M. C. A., etc.	1.	1.	

The next point of interest is the study of the indications of this forecast in relation to building activity in various sections of the country in 1927 as compared to that of 1926. Reports received by THE ARCHITECTURAL FORUM have been carefully compared with last year's forecast figures and with the actual record of contracts let. This comparison shows that in the Northeastern States building activity will be approximately 10 per cent less in 1927 than in 1926. This is closely in accordance with the average reduction of new construction volume expected throughout the country. In the North Atlantic States, which include the New York area, a similar average reduction in activity is expected. In the Southeastern States it is anticipated that construction will be probably from 20 to 25 per cent less in 1927 than in 1926. The Southwestern States, however, promise a volume of new building approximately equal to that of last year. Figures received from the Middle Western States, including the Chicago district, show no anticipated reduction of activity—in fact all indications point to a program probably 10 per cent greater than that of 1926. The Western States, however, are likely to reflect the national reduction, showing activity of about 10 per cent less than in 1926. Thus the various districts.

A comparison of anticipated new construction in various types of building for 1927 provides a basis for anticipating a number of changes both nationally and in various districts. The detailed comparison is found in the percentage tables presented with this article, but some of the outstanding features should be noted. For the entire United States, new automotive buildings, bank structures, club and fraternal buildings, community and memorial structures, hospitals, commercial buildings, schools, stores, theaters, and welfare buildings will be constructed in approximately the same proportions to the total new construction as was the case in 1926. A considerable increase is anticipated in the building of apartment hotels, churches, and public structures. Apartment buildings will represent a somewhat larger proportion of the new construction than in 1926. The

construction of new hotels promises to be probably 20 per cent less than shown in the actual figures of 1926. In forecasting hotel construction last year, THE ARCHITECTURAL FORUM's figure turned out to be considerably too high, because it included a large number of projects which failed to materialize due to failures in financing programs. In Florida, for instance, many hotels which actually reached the foundation stage were not completed because of the collapse of the boom. Similarly, many local "drives" failed because the projects in mind were evidently too large,—a point which should be carefully watched in relation to any new hotel project, and one which the hotel interests are watching carefully for 1927. THE ARCHITECTURAL FORUM's estimate of hotel building shows a greater demand in the Northeastern States for 1927 than in 1926; approximately the same in the North Atlantic States; a reduction of about 20 per cent in the Southeastern States; approximately the same in the Southwestern States; less than half the demand in the Middle States (where a vast amount of new construction has been carried out), and approximately the same in the Western States. The comparative demand for new hotel buildings in the United States for 1927 is probably one-third less than that indicated for 1926. A reduction of approximately 15 per cent is expected in new construction contracts let for industrial buildings, such as factories and warehouses. Dwellings under \$10,000 in cost, which made up approximately \$1,000,000,000 of last year's total, will probably show a 20 per cent reduction in activity, while the construction of dwellings costing over \$10,000 will be about 10 per cent less. Such are the indications.

These deductions, as taken from the large number of individual reports received by THE ARCHITECTURAL FORUM in compiling its annual survey, seem to be quite in accordance with changing trends of public demand for new buildings. The increased activity in apartment hotel building, for instance, is a definite reflection of a change in the mode of living which seeks convenience and comfort without the responsibilities of operating large individual dwellings. Thus it is anticipated that there will be a definite increase in the number of co-operative apartment buildings, and no decrease in the volume of high priced apartment construction during this year.

To sum up the general impressions of this forecast, it is apparent that 1927 will be another year of considerable prosperity for the building industry, and that economic conditions will provide both the demand and the means needed to add a vast contribution to the nation's total of well built structures. In other words, the United States is going about its building in a sensible way, undertaking no program which will do other than meet the requirements of the situation. During the next few years a gradual reduction of building activity is anticipated—one which will bring the national building program to a new normal of approximately \$4,000,000,000 a year.

FEBRUARY, 1927

THE ARCHITECTURAL FORUM

PLATE 25

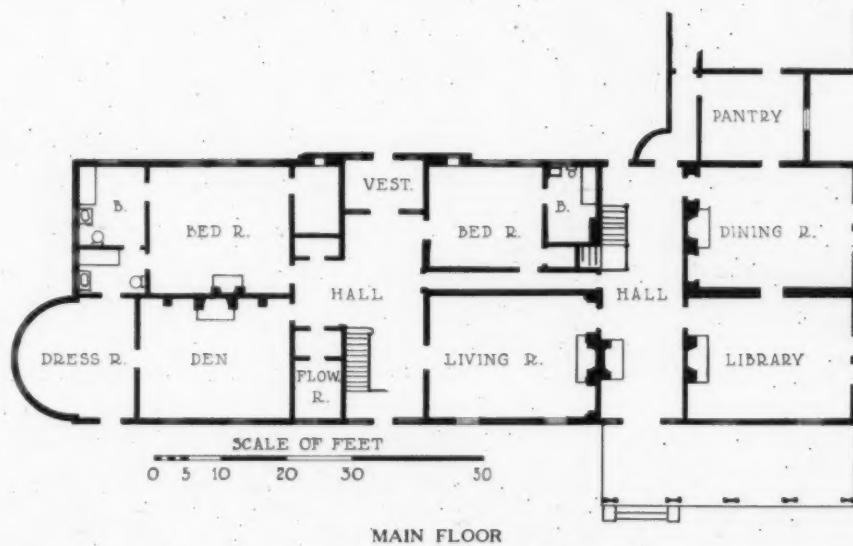


ENTRANCE FRONT



Plans on Back

GARDEN FRONT
HOUSE OF C. L. HAY, ESQ., NEWBURY, N. H.
PRENTICE SANGER, ARCHITECT



PLANS, HOUSE OF C. L. HAY, ESQ., NEWBURY, N. H.

PRENTICE SANGER, ARCHITECT

FEBRUARY, 1927

THE ARCHITECTURAL FORUM

PLATE 26.



HALL AND STAIRWAY
HOUSE OF C. L. HAY, ESQ., NEWBURY, N. H.
PRENTICE SANGER, ARCHITECT



FEBRUARY, 1927

THE ARCHITECTURAL FORUM

PLATE 27

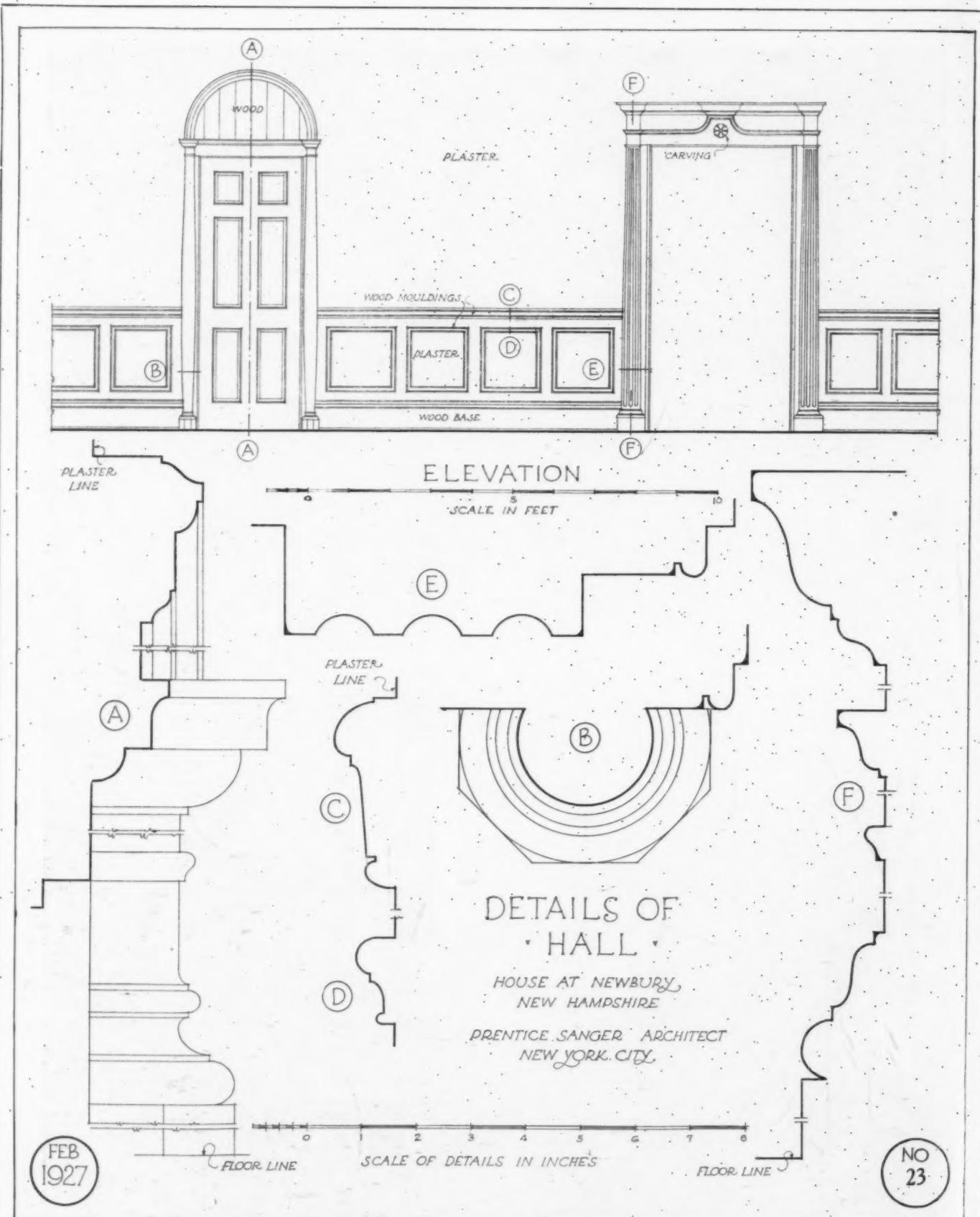


Details on Back

DETAIL IN HALL

HOUSE OF C. L. HAY, ESQ., NEWBURY, N. H.

PRENTICE SANGER, ARCHITECT



The ARCHITECTURAL FORUM DETAILS

FEBRUARY, 1927

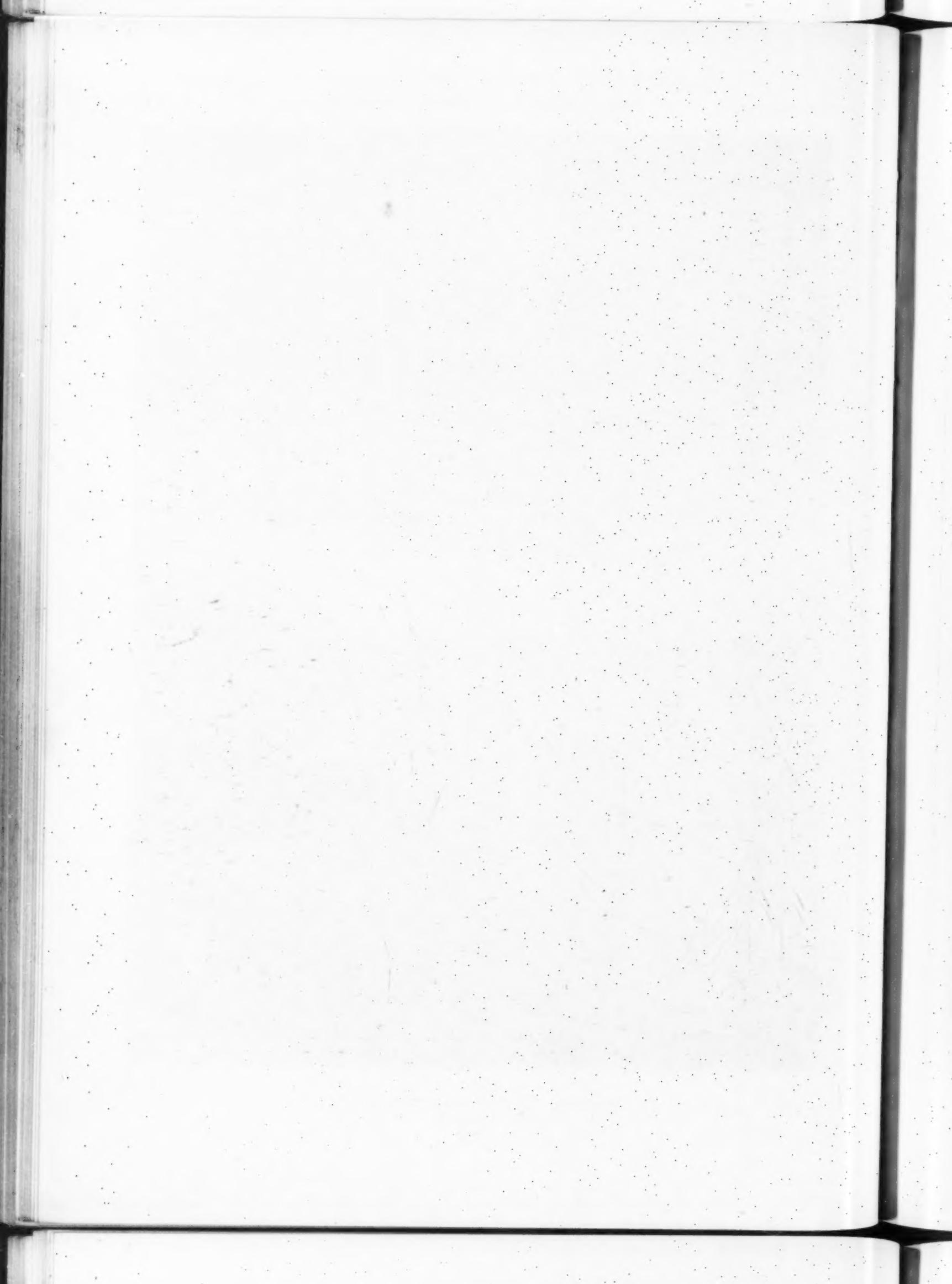
THE ARCHITECTURAL FORUM

PLATE 28



DOORWAY IN HALL
HOUSE OF C. L. HAY, ESQ., NEWBURY, N. H.
PRENTICE SANGER, ARCHITECT

Details on Back of Plate 27



FEBRUARY, 1927

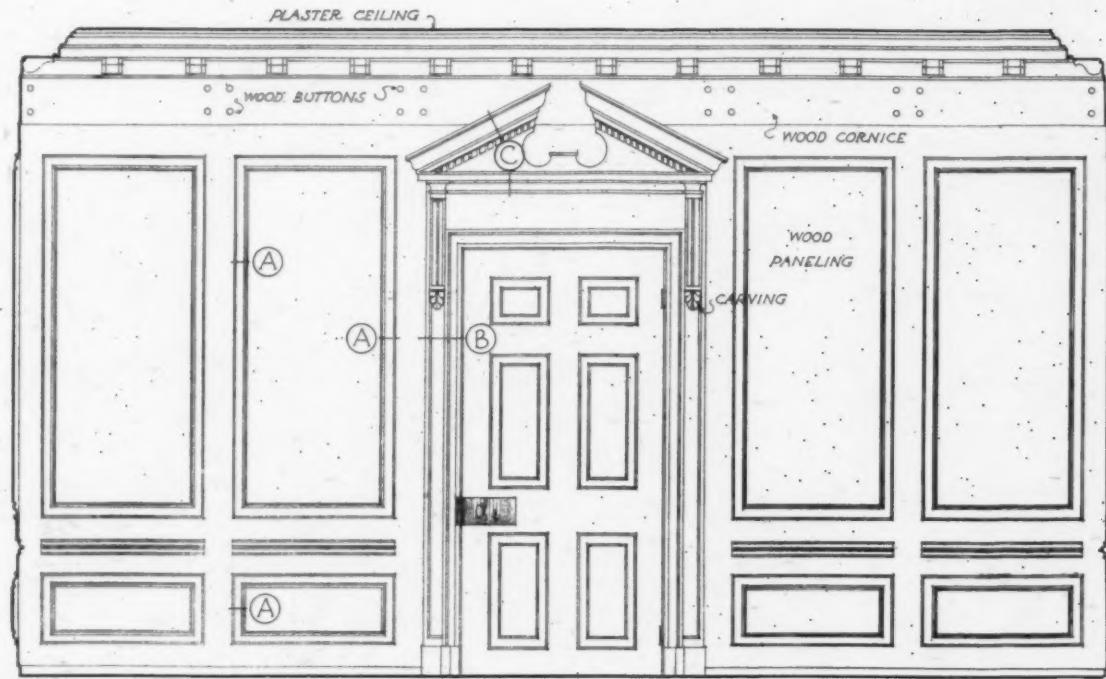
THE ARCHITECTURAL FORUM

PLATE 29



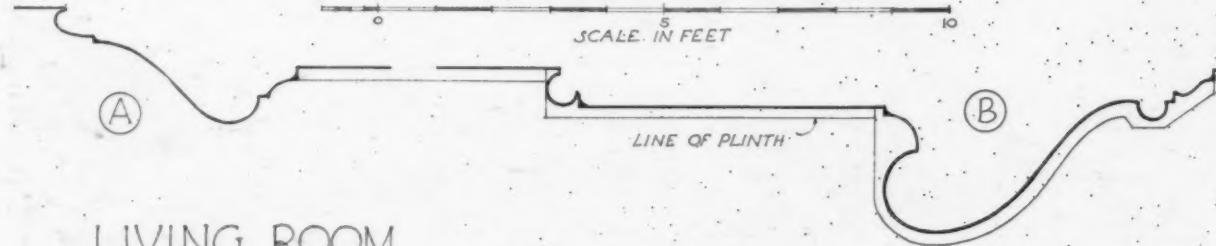
Details on Back

DETAIL, LIVING ROOM
HOUSE OF C. L. HAY, ESQ., NEWBURY, N. H.
PRENTICE SANGER, ARCHITECT



ELEVATION

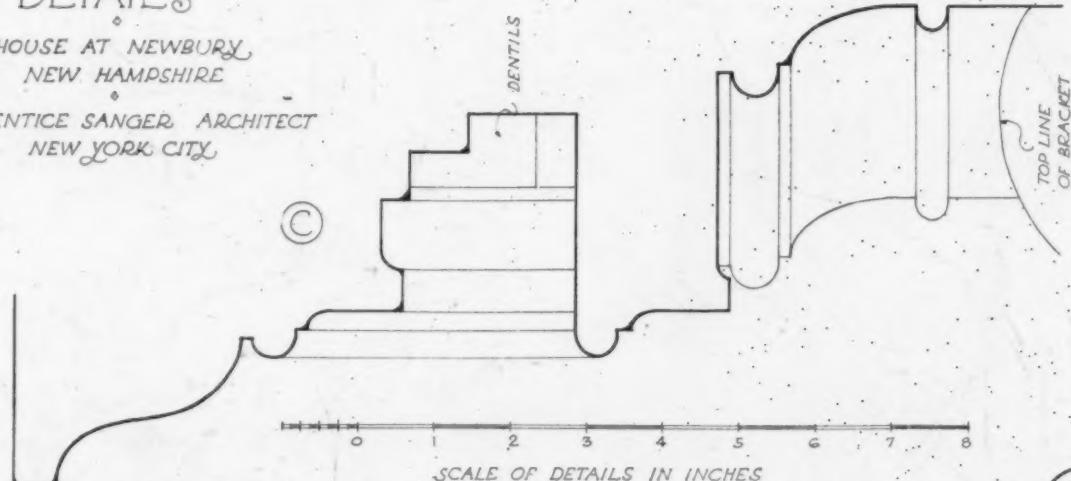
SCALE. IN FEET



LIVING ROOM
DETAILS

HOUSE AT NEWBURY
NEW HAMPSHIRE

PRENTICE SANGER, ARCHITECT
NEW YORK CITY



SCALE OF DETAILS IN INCHES

FEB
1927

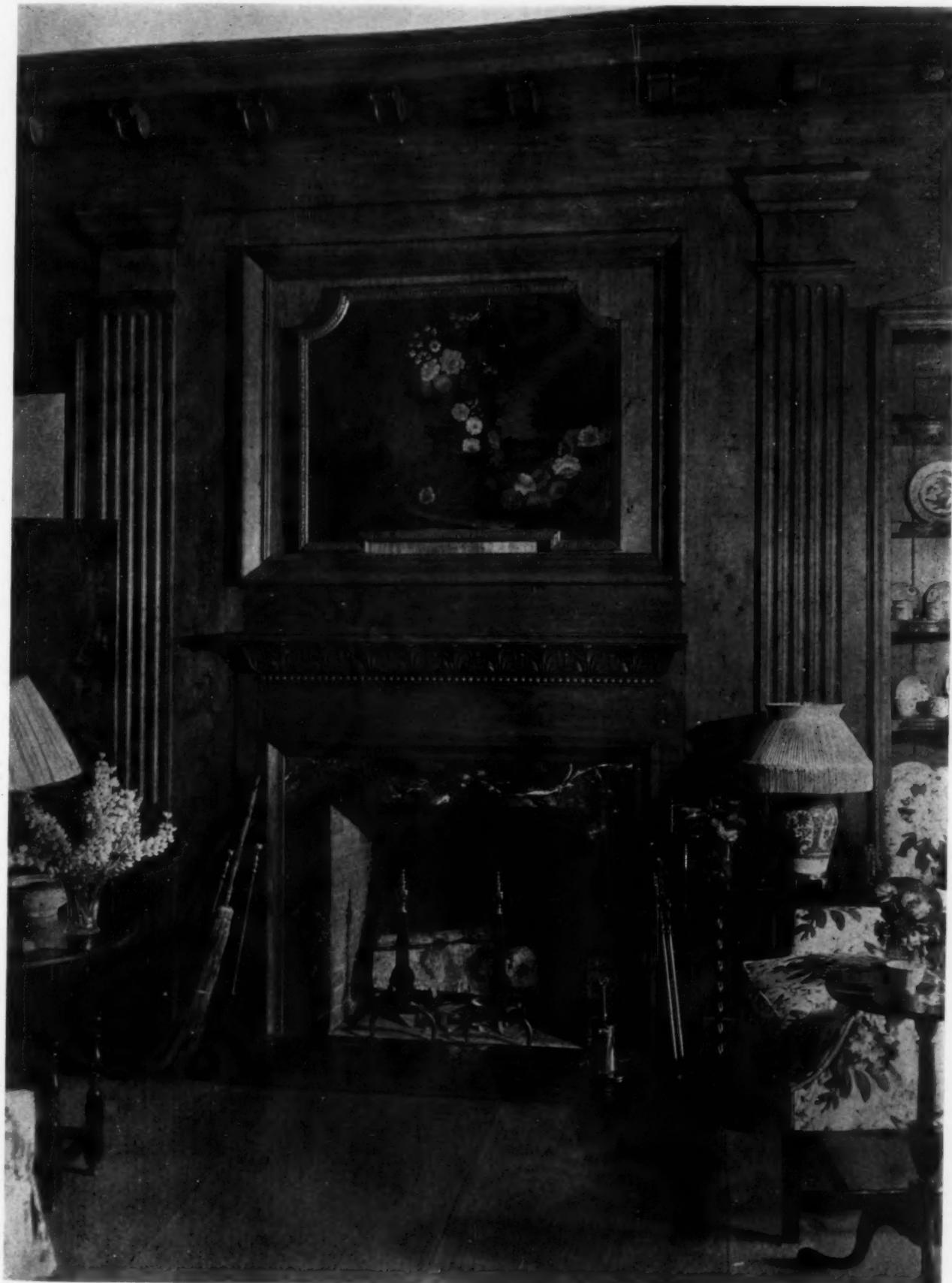
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The ARCHITECTURAL FORUM DETAILS

FEBRUARY, 1927

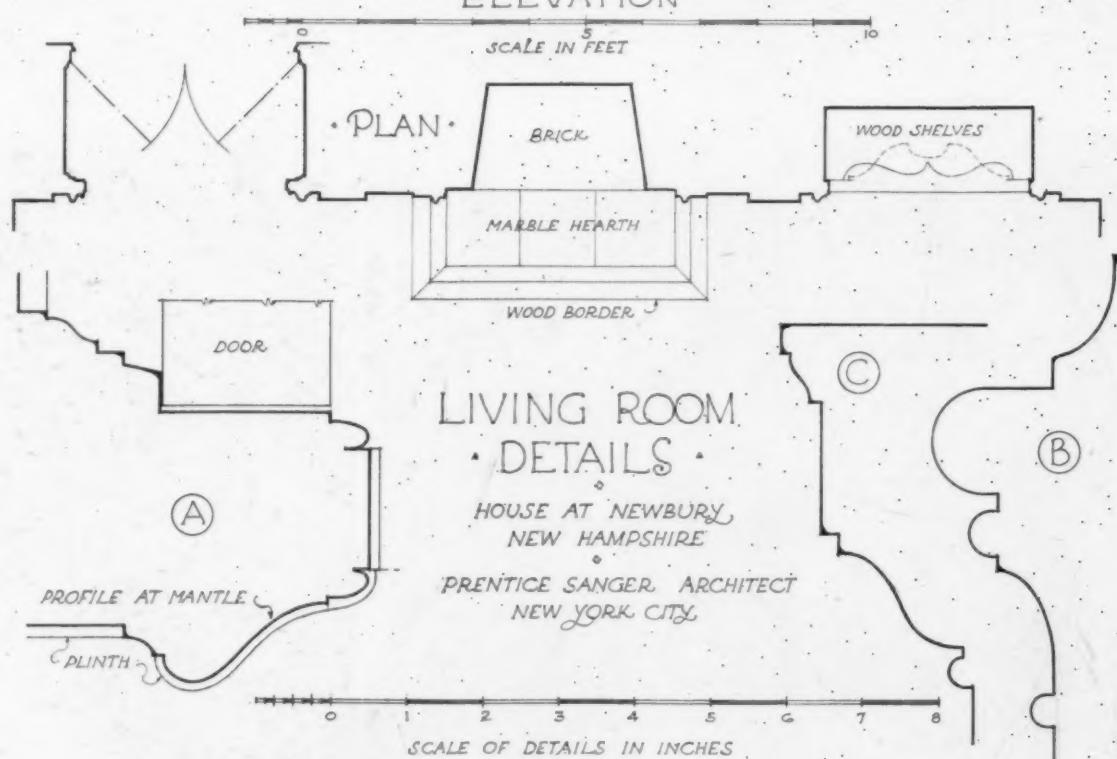
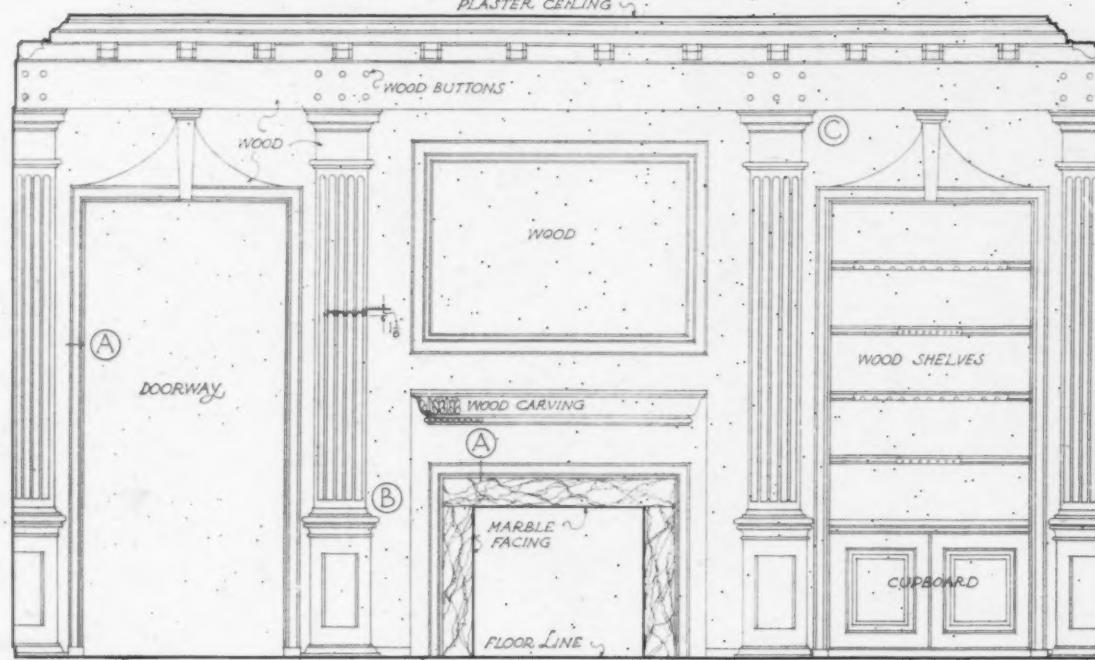
THE ARCHITECTURAL FORUM

PLATE 30



Details on Back

LIVING ROOM FIREPLACE
HOUSE OF C. L. HAY, ESQ., NEWBURY, N. H.
PRENTICE SANGER, ARCHITECT



FEB
1927

NO.
25

The ARCHITECTURAL FORUM DETAILS



LIVING ROOM IN COTTAGE



LIVING ROOM
HOUSE OF C. L. HAY, ESQ., NEWBURY, N. H.
PRENTICE SANGER, ARCHITECT



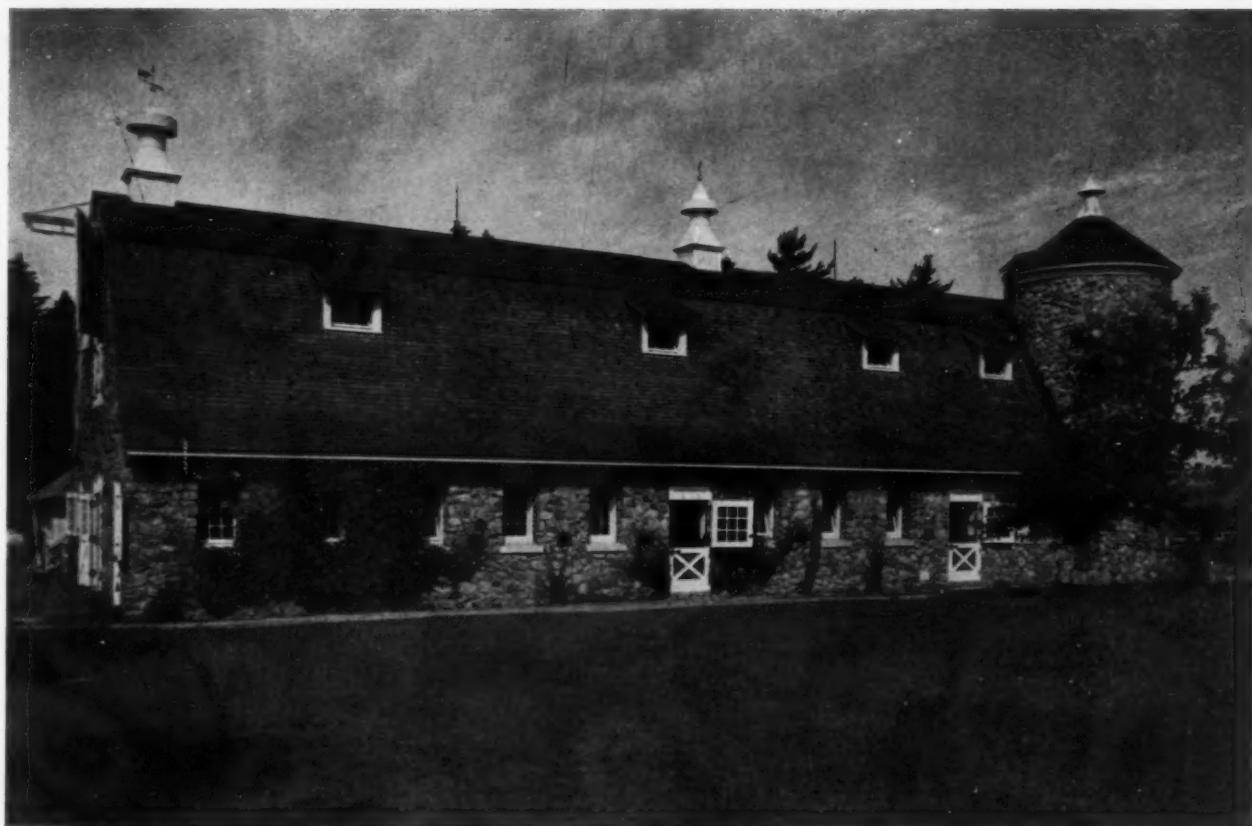
FEBRUARY, 1927

THE ARCHITECTURAL FORUM

PLATE 32



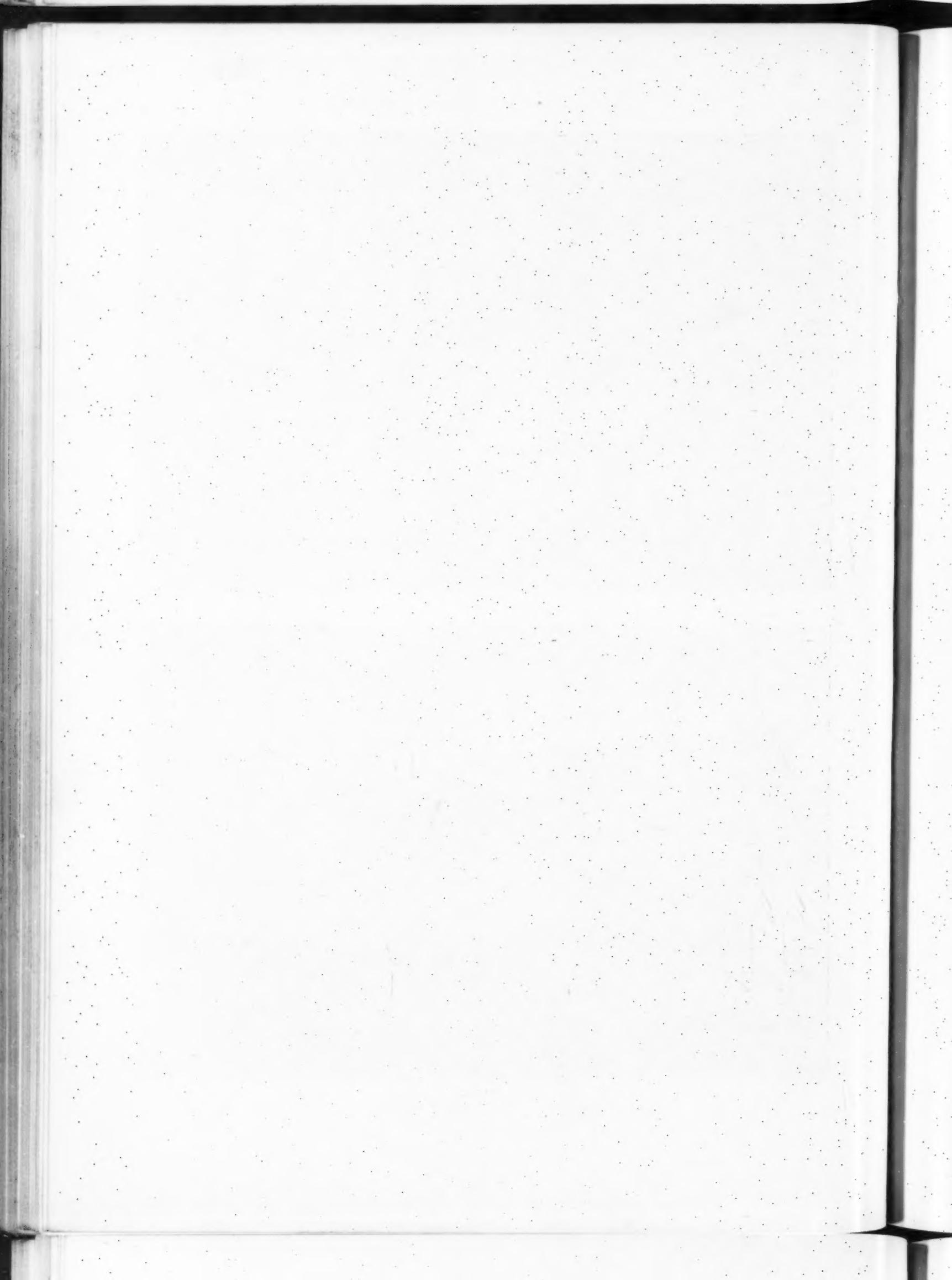
COTTAGE.



BARNs

ESTATE OF C. L. HAY, ESQ., NEWBURY, N. H.

PRENTICE SANGER, ARCHITECT



ENGINEERING DEPARTMENT

Plant for Kelly Press Division, American Type Founders Co.

By WALTER H. LEWIS, Engineer

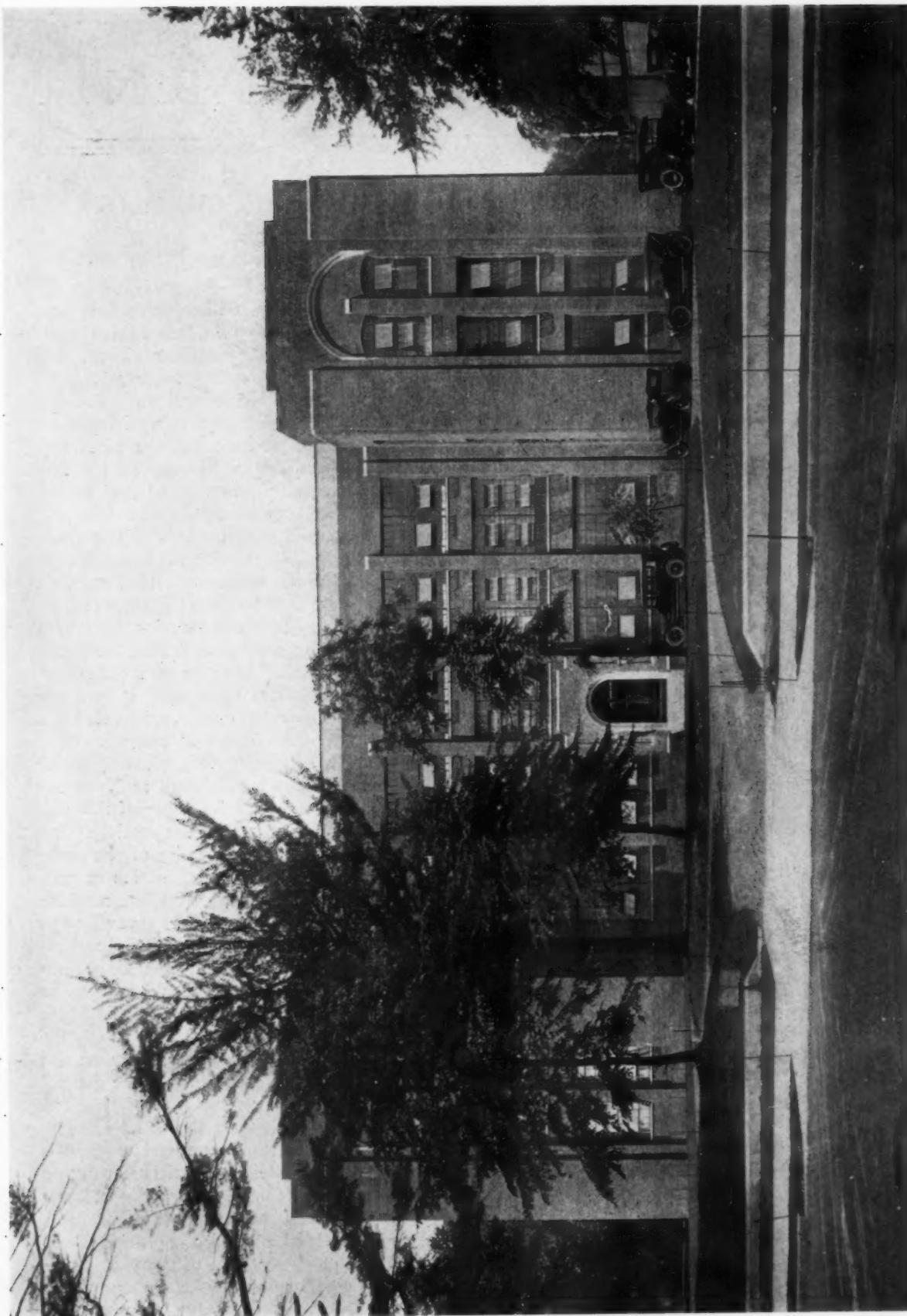
THE American Type Founders Company has, in conjunction with its type business, developed the "Kelly Automatic Press" in order to supply the printing trade with a flat-bed, rapid-production press. The popularity of the medium-sized unit, known as style "B," justified the later introduction of a larger- and a smaller-sized press, designated "Kelly Automatic No. 2" and "Kelly Automatic Jobber," respectively, each complete with automatic feeders, extension deliveries, and electrical equipment. The available space in the Jersey City type plant was soon overtaxed as the business expanded, necessitating distributing the work to other plants of the company as well as to outside firms. Anticipating the early need of a separate plant for the manufacture of Kelly presses, the company acquired a site of about ten acres at Elizabeth, where a plant could be built for production, assembly and testing operations. This property is a strip 200 feet wide by 2240 feet long, parallel with the Central Railroad of New Jersey right of way upon the north, and facing West Grand Street, adjacent to the El Mora station. It was an undeveloped piece of land, partially wooded, with a rise of over 25 feet from the east end, where El Mora Avenue crosses under the railroad, to the central portion, which rises from 4 to 6 feet above the adjacent tracks.

After the property had been acquired, a zoning commission was appointed in Elizabeth to regulate the classes of buildings which could be constructed in the business, industrial and residential districts. The proposed site being adjacent to a residence district, the officials of the American Type Founders Company assured the commission that the buildings of the new plant would not be of an objectionable type or out of keeping with their surroundings. At this point the firm of Day & Zimmermann, Inc., of Philadelphia, was called in by the owners to take charge, in conjunction with their operating officials, of the industrial layout, of design, and construction.

The three sizes of presses were analyzed into their component parts, and there were determined the machine tool requirements for the scheduled production of which the plant was to be designed. From these studies the industrial layout was made, showing the main working areas and the auxiliary departments, such as general offices; wash and locker rooms; cafeteria; first aid hospital; toilet rooms; elevators; pattern shop; heating plant, etc. For the

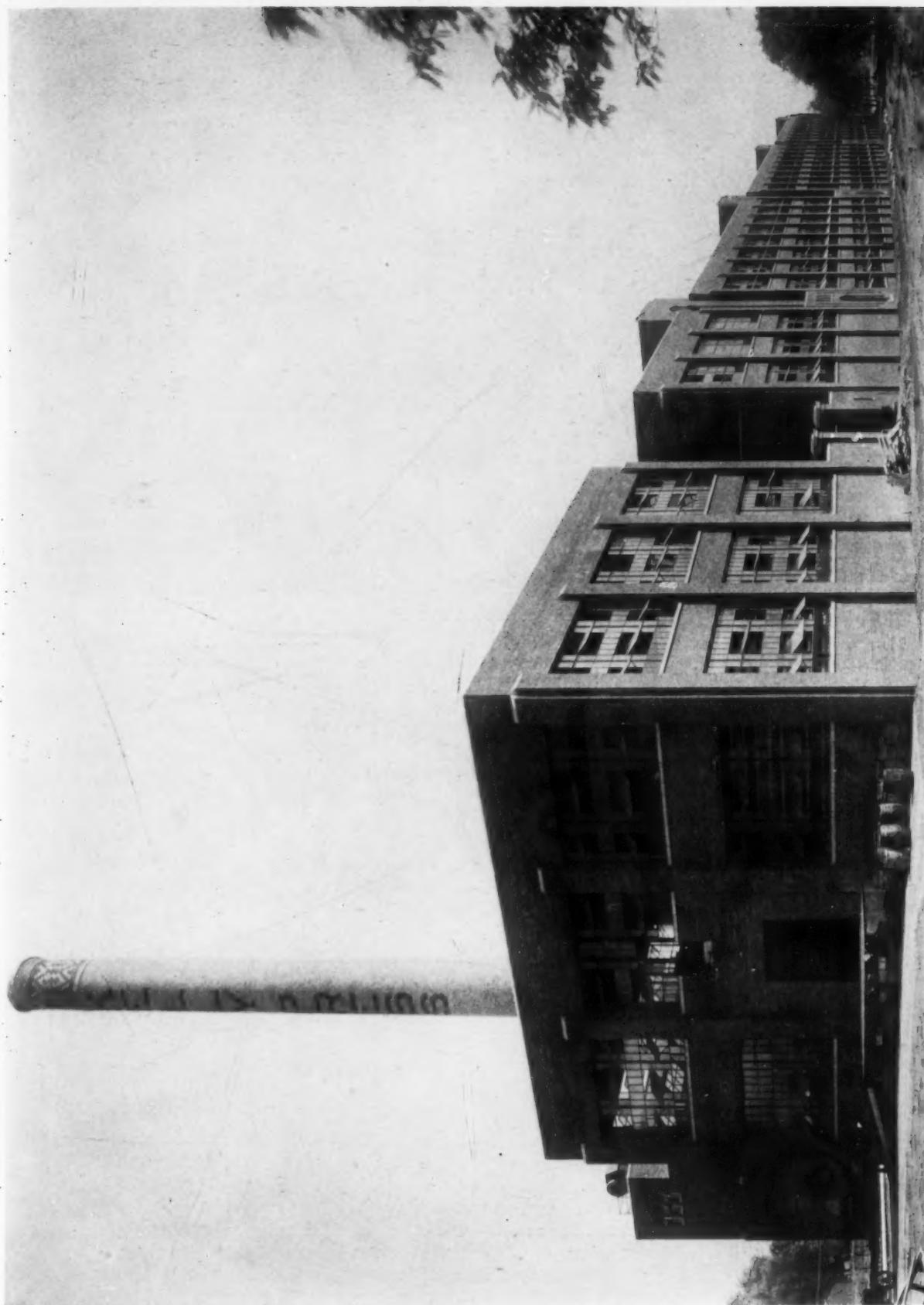
estimated production schedule the total floor space needed for all departments without crowding was found to be approximately 250,000 square feet. After a thorough study, the engineers found that owing to the limited width and the sloping depth of the site a combination of single- and multiple-story buildings was justified. A comparison of the costs of the different types of construction was made, and it was decided that the type best suited for this plant was that having an un-fireproofed steel frame, with brick curtain walls and steel sash, concrete and wood block floors, and gypsum roof. The engineers designed the buildings with the exception of the enclosing architectural treatment, and then called upon the firm of Day & Klauder of Philadelphia as consulting architects to design an exterior that would be in keeping with the location and enclose the buildings as already designed. The type of architectural design selected by the architects was a form of Gothic adapted to commercial purposes, executed in a kiln-run, hard, common red brick with cast stone trim and gray mortar, producing a very pleasing effect.

A siding from the Central Railroad of New Jersey was placed along the north boundary of the plot, serving both the power plant and the receiving and shipping departments. The economics of the problem required the adoption of a combination of one- and two-story sawtooth buildings for the machine shop and a multiple-story type for the assembly and office buildings. Due to the sawtooth buildings' requiring uninterrupted north light, it was obvious that the multiple-story structures would have to be placed upon the other side of the plot. El Mora Avenue bounded the plot upon the east and is the main thoroughfare to the Jersey Central station and the trolley connections; it followed that the general offices should be placed upon this end of the plot. This building was set back from the street 130 feet to save a number of existing trees and to provide an attractive approach. The industrial control and the proper sequence of manufacturing operations required that the assembly buildings should adjoin the machine shop and office building, so it was placed upon the West Grand Street side of the plot. This location made it possible for the fire tower exits to open upon the sidewalk of West Grand Street. There is provided at the rear of the present buildings a heating plant adjacent to the railroad siding and a woodworking shop upon West Grand Street; west-

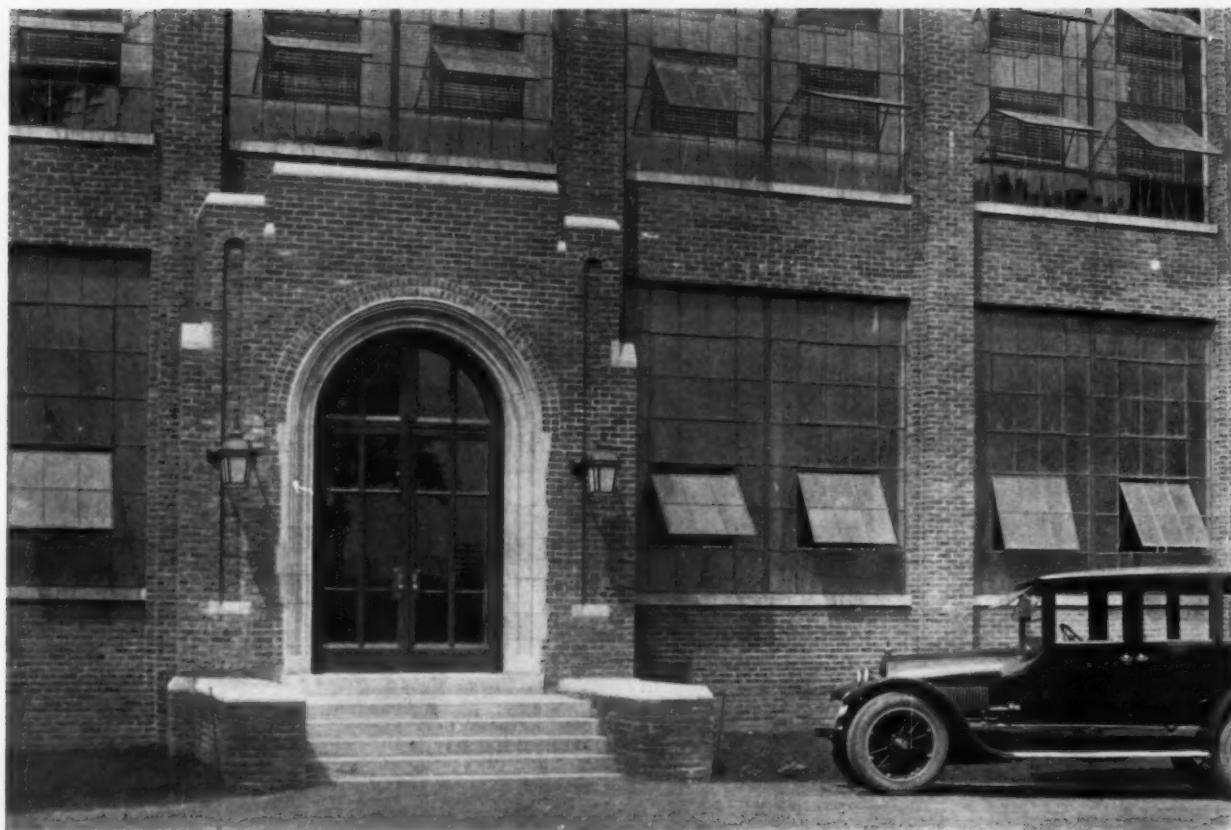


EL MORA AVENUE ELEVATION

BUILDING FOR AMERICAN TYPE FOUNDERS COMPANY, ELIZABETH, N. J.
DAY & KLAUDER, ARCHITECTS; DAY & ZIMMERMANN, INC., ENGINEERS



GRAND STREET ELEVATION
BUILDING FOR AMERICAN TYPE FOUNDERS COMPANY, ELIZABETH, N. J.
DAY & KLAUDER, ARCHITECTS; DAY & ZIMMERMANN, INC., ENGINEERS



MAIN ENTRANCE, OFFICE BUILDING



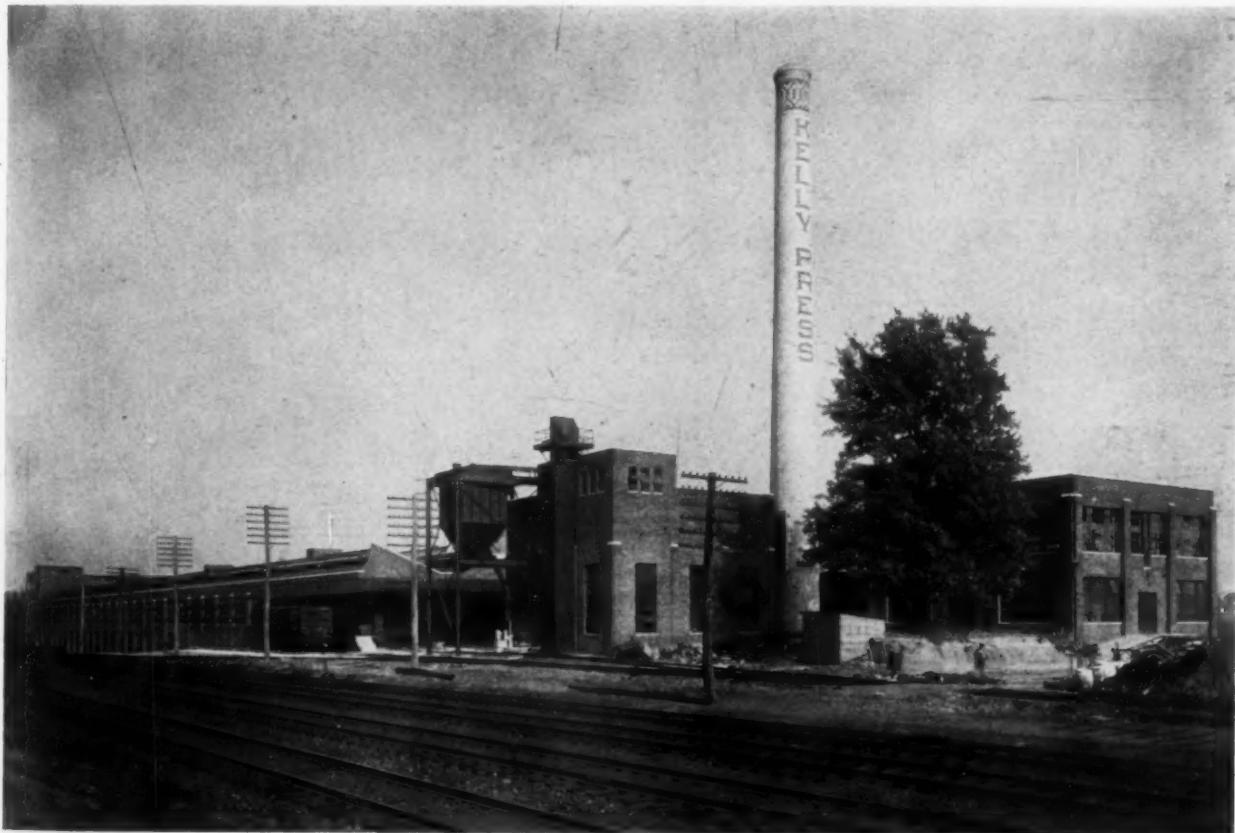
GENERAL VIEW

BUILDING FOR AMERICAN TYPE FOUNDERS COMPANY, ELIZABETH, N. J.
DAY & KLAUDER, ARCHITECTS; DAY & ZIMMERMANN, INC., ENGINEERS

ward of these buildings is a heavy casting storage yard for castings that have to be seasoned before machining. The main entrance to the mill yard is between the woodworking shop and the assembly building, opening from West Grand Street and giving access to the truck shipping dock, power house, casting storage yard and a driveway between the railroad property and the sawtooth building, leading out to El Mora Avenue. The latter driveway is for emergency use only or for intercommunication between departments. The floor loads that were used for the buildings are of interest,—main office, 60 pounds per square foot; cafeteria, 100; service bay, 350; assembly building, 200; machine shop, 250 pounds per square foot, excepting the one-story section, where the slab rests upon the ground, which is figured for a loading of 500 pounds per square foot upon an unsupported section of 10 feet.

The office building section has a frontage of 159 feet, 8 inches upon El Mora Avenue and a depth of 62 feet upon West Grand Street; it is three stories high, separated from the machine shop and assembly buildings by a fire cut-off wall, with story heights of 16 feet, 6 inches for the ground and main floors and 14 feet, 6 inches from bottom chord of truss to floor for the second floor. The first or ground floor contains the main entrance, the employment office, and the employes' main wash and locker rooms. The executive, sales and accounting offices are on the main floor, while the cafeteria, plant hos-

pital and dental room occupy the upper or second floor. The assembly building section is 60 feet wide and 660 feet long, parallel to West Grand Street, three stories high, joining the office building upon the east and the machine shop upon the north side, with story heights of 16 feet, 6 inches upon the ground and main floors and 14 feet, 6 inches upon the second. The first or ground floor houses the raw material truck receiving dock, preliminary machining operations, automatics, and plating departments, the heat treating department and wash and locker rooms. The main press erection, machining, parts storage, testing and casting cleaning and painting departments are on the main floor, while the sub-assembly and experimental departments and the drafting room are distributed on the second floor. This building also contains the four fire towers. The second floor is lighted by side wall sash and a sawtooth skylight over the center bay for its entire length. The machine shop section is 105 feet wide and 570 feet long; a part is two stories high, and the remainder is one story high, with story heights of 16 feet, 6 inches for the ground floor and 14 feet, 6 inches from bottom chord of truss to main floor. The ground story was carried back until the natural slope of the ground made the cost of the cut equal to that of the fill. The column spacing for this section was 20 feet east and west and 30 feet north and south, surrounded upon the south and east sides by a service bay 15 feet wide, containing the elevators,

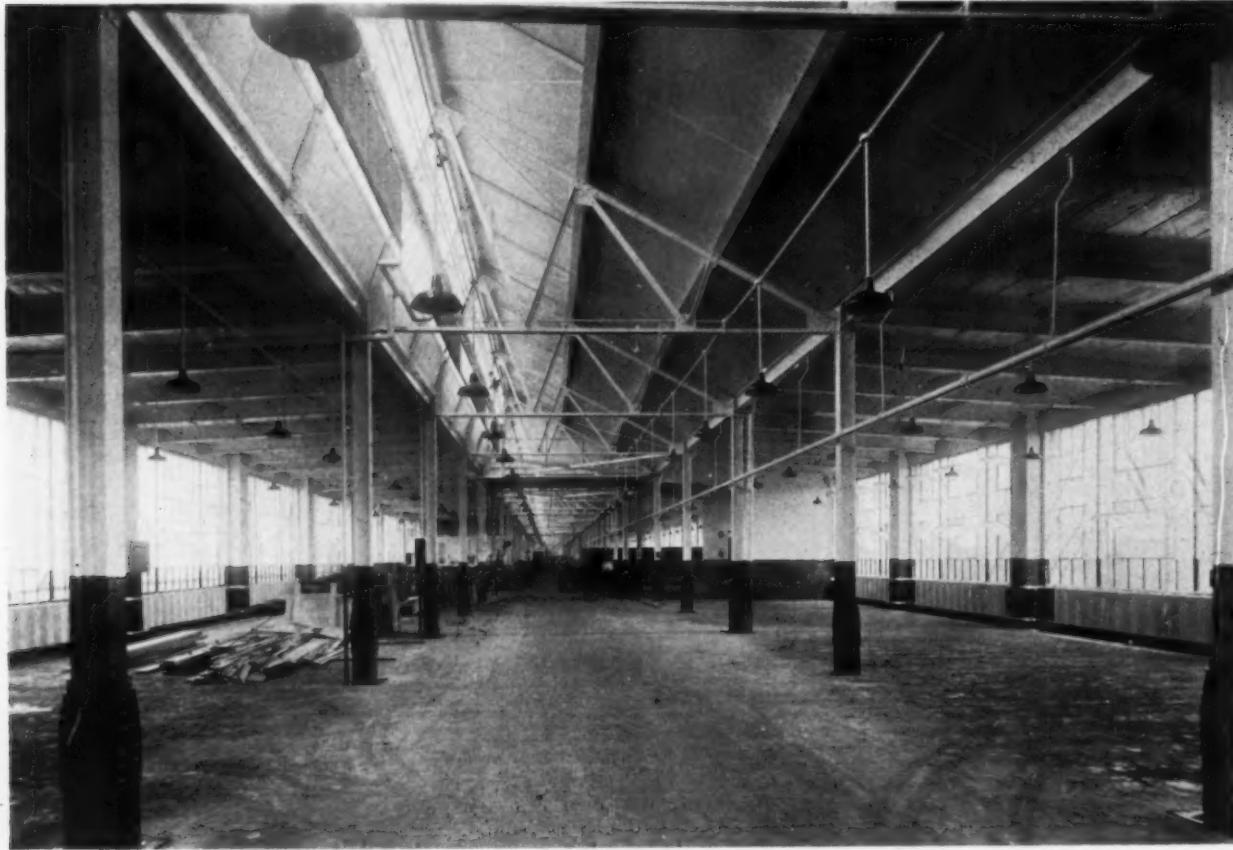


North Elevation, Power Plant and Machine Shop Building for American Type Founders Company
Day & Klauder, Architects; Day & Zimmermann, Inc., Engineers

storage spaces, and main supply pipes. The ground floor houses the rough material storage spaces in the darkest portion, since it is usually necessary to use artificial lighting on account of bin spacing and storage shelves; this floor also contains the preliminary machining, automatics, and compressor room departments, the main electrical switchboard and transformer room, and stores. The main machine shop and shipping room are upon the main floor. Excellent natural lighting is obtained on the main floor through the sawtooth skylights and the exterior windows along the north wall. In addition the A-frame skylight in the 15-foot wide service or elevator bay, which connects the 90-foot sawtooth section with the 60-foot wide multiple-story building, admits additional light into the north side of the multiple-story structure. The shipping department is at the west end of this section, connecting with the covered shipping dock extending along the end and side of the sawtooth building, permitting the shipment of the company's product by motor trucks or railroad cars. The separate two-story building, 64 feet square, at the rear of the property along West Grand Street, houses the departments with the greatest fire hazards,—box and crate making being done on the first floor, and pattern making on the second. Column centers are of the same spacing as used in the main multiple-story building, so that the two structures could be connected by a bridge at the second floor if it ever becomes necessary to have them joined.

The expansion program for the future calls for an extension of this building westward along West Grand Street, with an adjacent single-story sawtooth building along the railroad side lining up with, but separated from, the present sawtooth shop. The heating plant, now provided behind the main plant between the railroad and woodworking shop, would be enlarged to suit, and would then be centrally located to serve the initial and later buildings. The five elevators, conveniently distributed, provide satisfactory handling between floors of the raw materials and parts in process of manufacture. One of these elevators is placed so that it can serve the main offices and cafeteria. The sanitary facilities have been conveniently located throughout the buildings, to take care of the department requirements. Handling of press parts as well as the assembled presses on the erecting floor, in the running-in test department and shipping department, is facilitated by floor-controlled traveling electrical cranes. These cranes are of the transfer type with stationary cross-over I-beam tracks suspended between adjacent crane runways at suitable intervals, so that the traveling motor hoists can transfer from one bay to the bay adjacent, or deliver finished presses for shipping.

Mechanical Equipment. The heating system of the plant affords approximately 38,000 square feet of direct radiation. Radiators of the wall type are placed along the walls under the windows and under the sawtooth roof. Steam is generated at 100-pound



Sub-Assembly Department, Building for American Type Founders Company

Day & Klauder, Architects; Day & Zimmermann, Inc., Engineers

pressure in the boiler house located at the west end of the plant. A high-pressure steam main is run the full length of the ground floor of the entire building. From this high-pressure main steam is taken at six different points and passed through regulating valves to the heating mains. Each of these heating mains furnishes steam to six bays of the main building, and each floor of these six bays is under control of a thermostatic temperature-regulating valve. By the use of this system of distribution the cost of piping and temperature control is kept very low. Returns and air are removed from the heating system by means of vacuum pumps, automatically controlled. The boiler room contains two 300 h. p. water tube boilers with hand stokers for burning buckwheat coal. The coal is received in hopper-bottom cars on the railroad siding alongside the boiler house. It is passed through a track hopper to the coal elevator, which conveys the coal to the overhead steel plate bunker in the boiler house. The coal is spouted from the bunker to the stoker hopper. Ashes and soot are removed from the boilers by means of steam jet conveyors and carried to the ash bin located out of doors above the railroad siding. Ashes can be either dropped into railroad cars or removed by auto trucks. An extensive compressed air piping system has been installed throughout the plant. The compressed air is furnished by a compressor driven by an synchronous motor and is located on the ground floor, approximately at the center of the plant. Two deep well pumps under automatic control in connection with two pressure storage tanks supply the water for operating and sanitary purposes. A separate drinking water line furnishes this well water to the fountains at a temperature of about 56° Fahr.

Electrical Equipment. Energy for all power and light requirements is purchased from the Public Service Electric Company of New Jersey. This power is delivered at 2400-volt, 2-phase, 4-wire, 60-cycle, a.c. and is carried underground to the main switchboard room located at the approximate center of the plant. A portion of the power is used at this voltage for driving a 500-cubic foot air compressor and also for driving a 150-kw., d.c. generator for 250-volt, d.c. power. Provision is made on all equipment for a change at some future time from the 2400-volt 2-phase, 60-cycle supply to a 4150-volt, 3-phase, 60-cycle, 40-wire neutral grounded supply. Provision is made for power factor correction in making the two motors of the synchronous type with additional field capacity to compensate for the lagging current taken by the induction motors throughout the plant. Control of the 2400-volt power is taken care of by an 8-panel switchboard located at the indoor substation. For the driving of production plant machinery and of such auxiliary equipment as elevators, pumps, fans, etc., 220-volt, a.c., 3-phase, 60-cycle; 3-wire power is supplied from a bank of two 333-k.v.a. connected transformers. Provision is made for growth in this load when

the changeover is made from 2-phase to 3-phase supply by adding an additional 333-k.v.a. transformer, making a total of 999 k.v.a. The distribution is at 22-volt, 3-phase, 6-cycle, a.c. in approximately 15 feeders. These feeders are carried out radially from the low voltage switchboard. The low voltage switchboard distributes all power for motors, both a.c. and d.c., as well as for the entire plant lighting system. Provision is made for a total connected a.c., 220-volt motor load of approximately 1250 h. p. and a 250-volt, d.c. motor load of approximately 275 h. p. The plant buildings are equipped quite generally with 1- and 2-ton motor-operated cranes with 250-volt, d.c. motors. The power is supplied from a 150-kw. motor generator set.

All lighting distribution for the plant is at 115/230-volt, a.c., 3-wire, single-phase. This power is obtained from a bank of three 100-k.v.a. transformers, stepping the voltage down from 2400-volt to 115/230-volt. The lighting throughout the factory buildings is by means of r.l.m. reflectors with 115-volt Mazda enameled bowl lamps. The spacing of these units is approximately standard throughout, being 10 by 10 feet, with from 11 to 14 feet mounting height. The office building illumination is by semi-indirect lighting units. Provision is made for the emergency lighting of stairways and exits. Energy for the emergency lighting is supplied from a small transformer direct from the 2400-volt supply and is separate from the general lighting system. In the event of failure of current for lighting from the three 100-k.v.a. transformers, the lights are automatically switched to a small emergency transformer.

All Kelly presses are equipped with driving motors, which may be a.c. single-phase or polyphase, of 110, 220 or 440 volts at 25-, 40-, 50- or 60-cycle, or d.c. of 115, 230 or 550 volts. An 8-panel testing switchboard is installed with the necessary motor generator sets and transformers for furnishing the a.c. and d.c. voltage. Circuits are carried out to the testing stands for each press through a plug board. A fire alarm system, connected to the city fire department, is installed at the plant. There are 25 fire alarm boxes and gongs placed throughout the plant.

Construction. The building of this plant was carried on under the supervision of the engineers upon their "minor contract plan," which consists of dividing the work in such a manner that specific lump sum bids were secured from contractors specializing in each part of the work. The specifications were written for each portion of the construction as a unit, bids were taken from a selected list of contractors who specialize in the type of work under consideration, and the contract was let to the lowest lump sum bidder. The engineers had a complete field force upon the site to coördinate and supervise the work of the different contractors and to keep accurate field costs. The construction of the plant was started about the first of May, 1923, the owner commencing the installation of his machinery eight months later, and operating in another two months.

THE ARCHITECTS' FORUM

EDITOR'S NOTE. This editorial by Harvey Wiley Corbett on "Some Observations on Commercial Architecture," is the second of the opinions on matters of current interest to architects which it is intended to publish upon this page from month to month. The Architects' Forum represents a new department, in which will appear contributions from Harvey Wiley Corbett, Aymar Embury II, C. Stanley Taylor and Alexander B. Trowbridge, all of New York; Charles G. Loring of Boston, and Rexford Newcomb of the University of Illinois. Comment on matters of interest is invited

EVERY age has its own peculiar trend. Ours is commercial and industrial. Whoever conceives it as an age of art, or statesmanship, or war, simply does not see it whole. We have had a war, but it was an industrial war. We killed wholesale by means of machinery and the products of machinery. It was the most impersonal war the world has ever known. We have art, but it is hardly a renaissance. We have statecraft, but it is a poor thing beside the Greece of Pericles. We have religion, but life *was* religion in the middle ages. All the arts inevitably take their color from the ages in which they flourish, but none so much as architecture. In fact, architecture, being utilitarian as well as æsthetic, is the mirror of every civilization. It reflects not only the color of each period but every lineament of its form more accurately than any written record. Hence the enduring monuments of mediævalism are its churches, and of *cinquecento* Florence, its palaces and galleries. The monuments of today will necessarily be factories and sky-scrappers!

In a broad sense it may be said that utility is the first essential in any building. A house is primarily a shelter from the elements; a temple a protection for the shrine. Beauty is accessory. It is only man's unconscious need for beauty that weds grace or grandeur to home and church. But when some new, exceptional condition creates a new type of structure, it takes time for the human mind to conceive the structure in terms of anything but its use. Appearance is neglected until it has proved its suitability to the required purpose. At first factories were sheds, and office buildings were biscuit boxes. Years elapsed before it occurred to anyone that such structures were even fit subjects for architectural treatment. The reason we have a Telephone Building or a Shelton Hotel is because we have begun to realize that beauty and utility are not, and never have been, strangers. But it has taken time for the idea to develop. Twenty years ago, when the owner, out of sheer swank, wanted adornment for a commercial building, he called in an architect and bought trimming. He paid by the yard for cornices, and by the square foot for stucco. When the building was done, he pointed to it with pride and called it "art." It raised his standing in the community, and gave him a sure sense of belonging to the elect. He felt superior to his fellows because he possessed a sense of beauty,—but the building was still a biscuit box. Another decade passed before he grasped the idea that the shape of the box was wrong, and that all his expensive trimmings were lost on a box

of gigantic proportions. The moral is that industrial and commercial architecture is a problem of mass.

We cannot solve the particular problem of our day as the Greeks solved theirs, for it is a different problem, arising from a different set of conditions. When we have learned that, we shall be better architects. And when we have solved it, the public will be proud of its factories and sky-scrappers, instead of indifferent to them. It must be said, however, that the new conception of commercial architecture is developing far more rapidly than any other style ever developed. In the past, styles were modified slowly, but sky-scrappers have changed radically in 20 years. The reason is that architectural forms change in direct ratio to the rapidity of building construction. We build now five times as fast as then. Therefore styles change in one-fifth of the time. Power machinery has wrought the change. Our own American architecture began well. It was simple and sound. Colonial houses grew from the soil. Then we became self-conscious, and architecture suffered the worst slump the world has ever known, not even excepting the *art nouveau* nightmare of sainted memory. It rallied bravely when Hunt and McKim and White brought intelligent study to bear and re-established sanity and proportion. There was a breathing space, but it was only marking time, for it soon became apparent that Greek railroad stations and Palladian libraries didn't quite fit. The classical slant was well enough for banks and state capitols, but it faltered when buildings took to walking on stilts. It was baffled when factories covered a hundred acres of land. Architecture found new wine too strong for old bottles.

Art is an elusive thing. Just when we are sure we have it cornered, compressed into a formula, indorsed by academies, and pinned with medals, we find out that it wasn't really art at all. Then some clever fellow observes that the seeds of art were in something we never even suspected, something we looked upon with disdain. When the bigwigs of American architecture said that commercial structures were beneath their notice as artists, they "passed up" their one genuine chance of creating something vital and enduring. Instead, they spent their time on the elaborate approximations of Romanesque churches and French chateaux, which have already been smothered out by the rank growth of sky-scrappers. Their primroses are lost in the thick growth of hardy weeds! We cannot suppress the weeds; our work is to turn Burbank, and make them flower too!

HARVEY WILEY CORBETT.

SMALL BUILDINGS

Show Windows and Shop Fronts

By LEIGH FRENCH, JR.

ONE of the architectural responsibilities as well as one of the architectural opportunities of the present day is to be found in dealing with the small building. By reason of their numbers, small or moderate-sized structures must inevitably set the prevailing architectural tone of the communities in which they stand, both in the city and in the country town. Even in the largest cities, where single structures,—large in both extent and scale,—are rapidly taking the places of a number of smaller buildings, many neighborhoods still remain, and in all likelihood will remain for a long time to come, where smaller buildings are distinctly in the majority. In country towns the small building is even more to the fore, and its permanence, in business and residential districts alike, is not likely to be seriously interfered with. In designing new buildings and in remodeling and in converting old dwellings

into business premises, therefore, the field of opportunity is unlimited, and much depends on its use.

One of the chief obstacles to more rapid architectural improvement in this field lies in the attitude of many architects themselves. Small commissions are unattractive and, when compared with larger and more lucrative commissions, they mean returns out of all proportion to the time, labor and thought required. Consequently, not a few architects of wide reputation and recognized ability will not bother with them at all and do not wish to be in any way concerned with them. Most of these small commissions, therefore, are left to the younger and less experienced members of the profession, or else they fall to the lot of the speculative builder and fail of receiving any architectural treatment at all. Under the circumstances, the architect with an active practice can scarcely be blamed for his aversion to the



Figure 1. Shop Front on River Street, Boston
Frank Chouteau Brown and John H. Enright, Architects



Figure 2. 24 Newbury Street, Boston

small commission, and yet we may seriously ask ourselves whether a little occasional altruistic concern with these minor works, which in the aggregate have so marked an effect upon the general aspect of the community, would not tremendously increase popular appreciation of architecture and thus immeasurably redound to the benefit of the profession in works where infinitely larger issues are involved.

The designing of small shop fronts, with the conversion of the lower floors of former dwellings into shops, constitutes an especially important branch of work in the realm of small architecture. In the same category may be placed the designing of relatively small new buildings, the lower floors of which are devoted to shops while the upper floors are reserved for living purposes. Wherever such work has received any competent direction at all, the results as a rule have been encouraging and indicative of an increasing popular appreciation of what is both decorative and serviceable—decorative to look at, and serviceable from the shopkeeper's point of view in the way of convenience and of presenting an inviting and profitable appeal to prospective customers.

In examining the accompanying illustrations of small shop fronts, several being in Boston, certain cardinal factors offer themselves for consideration. First, there is the relation of the shop fronts to the rest of the elevations above them, a well thought out instance of which appears in Figures 2, 3 and 4. Second,



Figure 3. Shop Front with Second Floor Show Window
Strickland, Blodget & Law, Architects



FIGURE 4. SHOP AND OFFICE BUILDING, 24 NEWBURY STREET, BOSTON
STRICKLAND, BLODGET & LAW, ARCHITECTS



Figure 5. 119 East 57th Street, New York
Lewis C. Patton, Architect

there is the relation of the entrances to the display windows, each of them separate units of the compositions. Third, there is the treatment given the windows themselves. In Figures 5 and 6 appears an instance of the composition of a front which has been designed to definitely express the character of the shop within. In this case it happens that the merchant offers for sale various kinds of artistic fireplace fittings, and antique and modern mantelpieces belonging to the various periods of English architecture. What could be more appropriate than that the exterior of the building should reproduce in detail and spirit some old Elizabethan building in Chester or Tewkesbury? The recessed treatment of the store front itself is of unusual interest both in plan and architectural effect. The modern idea of the recessed store front has here been very cleverly worked out along lines following early English precedents. As may be observed from the views, not only additional show-window space is provided but also a quaint stairway which leads up to the second floor of the shop. The detail of the wood carving and also the balustrades of the stairway and second floor balcony have unusual charm and interest. The floors above the shop were planned for studio and living purposes by the owner of the building and keeper of the shop.

In the glazing of the display windows of the shop, this particular instance presents an example of what has been done in designing the majority of shop fronts illustrated here. It is significant of the general trend of preference in such matters that the old custom of using small glass units is coming more and more into favor. Whether this clearly marked preference is dictated purely by taste or whether it is also influenced by considerations of psychology, it would be hard to say. As a matter of actual fact, the element of psychology enters very strongly into the matter. Shopkeepers are grad-



FIGURE 6. INTERESTING ARRANGEMENT OF RECESSED SHOP WINDOWS ON TWO LEVELS
LEWIS C. PATTON, ARCHITECT



FIGURE 7. SHOP BUILDING ON CHESTNUT STREET, BOSTON
CHARLES G. LORING, ARCHITECT

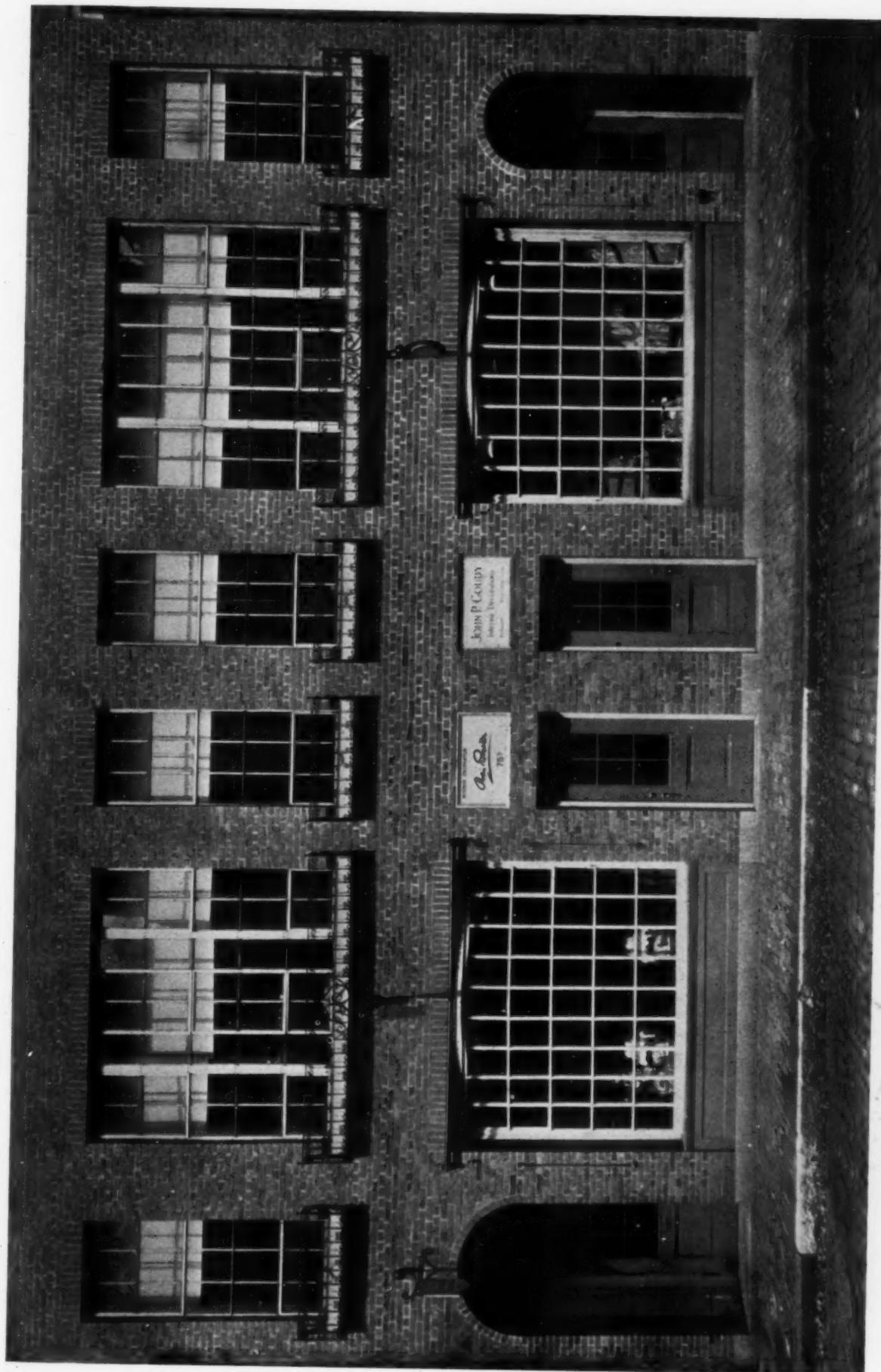


FIGURE 8. EXCELLENT ARRANGEMENT OF SHOW WINDOWS AND ENTRANCES TO UPPER FLOORS
CHARLES G. LORING, ARCHITECT



Figure 9. Shop Front on Charles Street, Boston
Kroky, Browne & Rosenstein, Architects

ually realizing that large plate glass display windows, free from any glazing divisions, are not necessarily the best for arousing the interest of passers-by in the goods displayed. The freedom from glazing divisions, it is quite true, permits an unobstructed view of everything in the window, leaving nothing to the imagination; but there is such a thing as making the display too obvious and eliminating the valuable element of curiosity. The smaller panes, with their multiple divisions of glazing bars, may not show the wares as plainly as one might see them by handling them, but it must be remembered that a thing not fully seen not only stimulates interest but also excites curiosity and prompts a desire for further investigation. And properly stimulated curiosity, along with the desire for further investigation, is likely to lead people *inside* the shop in pursuit of satisfaction of gratified curiosity.

An interesting and thoroughly agreeable arrangement of fenestration in a new building where the ground floor is unmistakably designed for the accommodation of shops while the upper floors might be used equally well for apartments or offices is shown in Figures 7 and 8. So far as the present discussion is concerned, it is immaterial to what purposes the upper floors are devoted. What is really significant is the harmonious and pleasant composition of the whole facade, incidentally showing how readily possible it is to incorporate well designed small shop fronts on the ground floors of buildings, the other floors of which are destined to serve a variety of different uses. To revert once more to the glazing of display windows, one could ask no better example than this of the admirable result of the small glazing divisions of the shop windows in their relation to the fully organized aspect of the entire front of the building. It needs no very great effort of the imagination to picture what

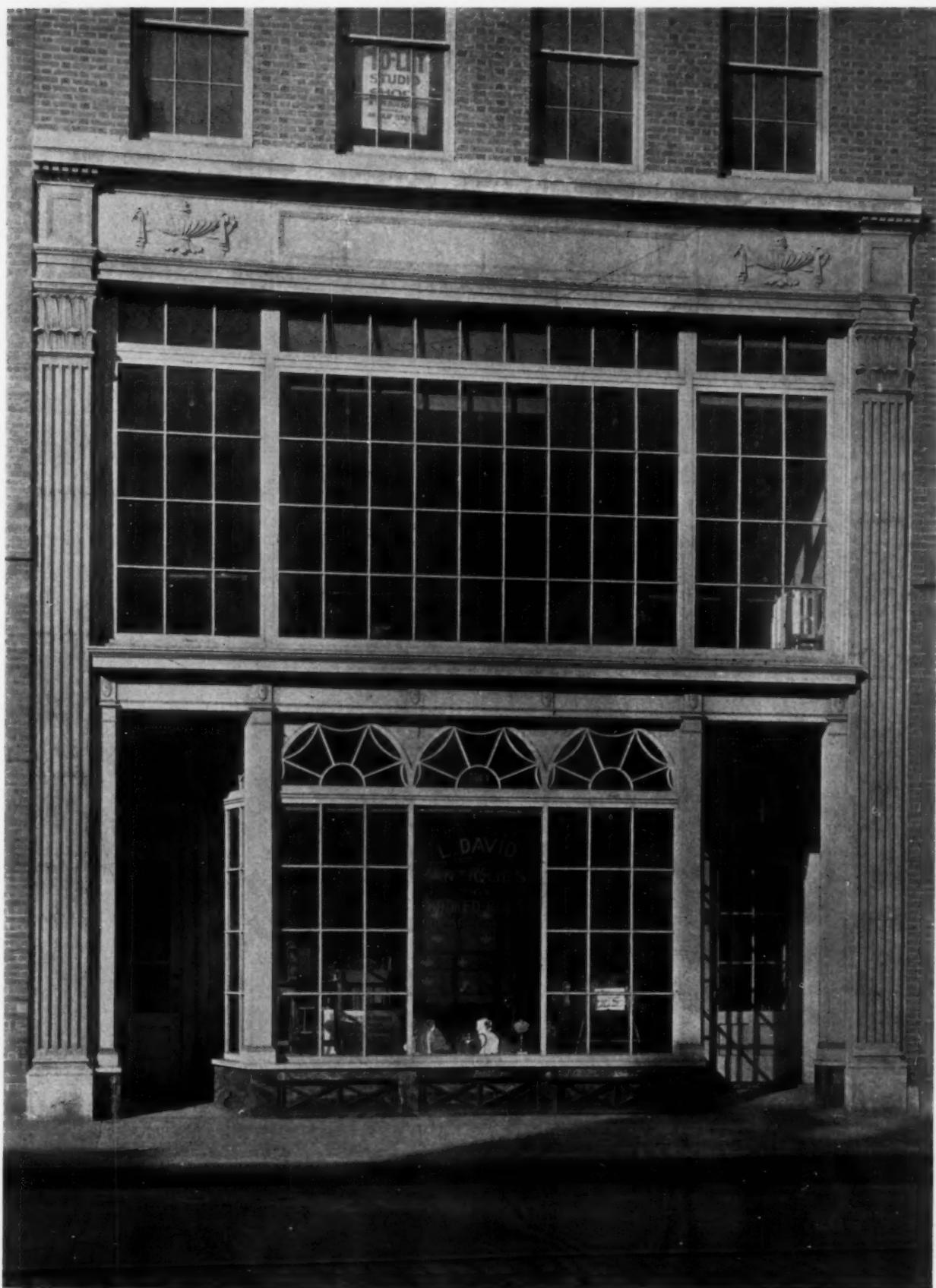


FIGURE 10. GOOD ARRANGEMENT OF TWO-STORY SHOP WINDOW
KROKYN, BROWNE & ROSENSTEIN, ARCHITECTS

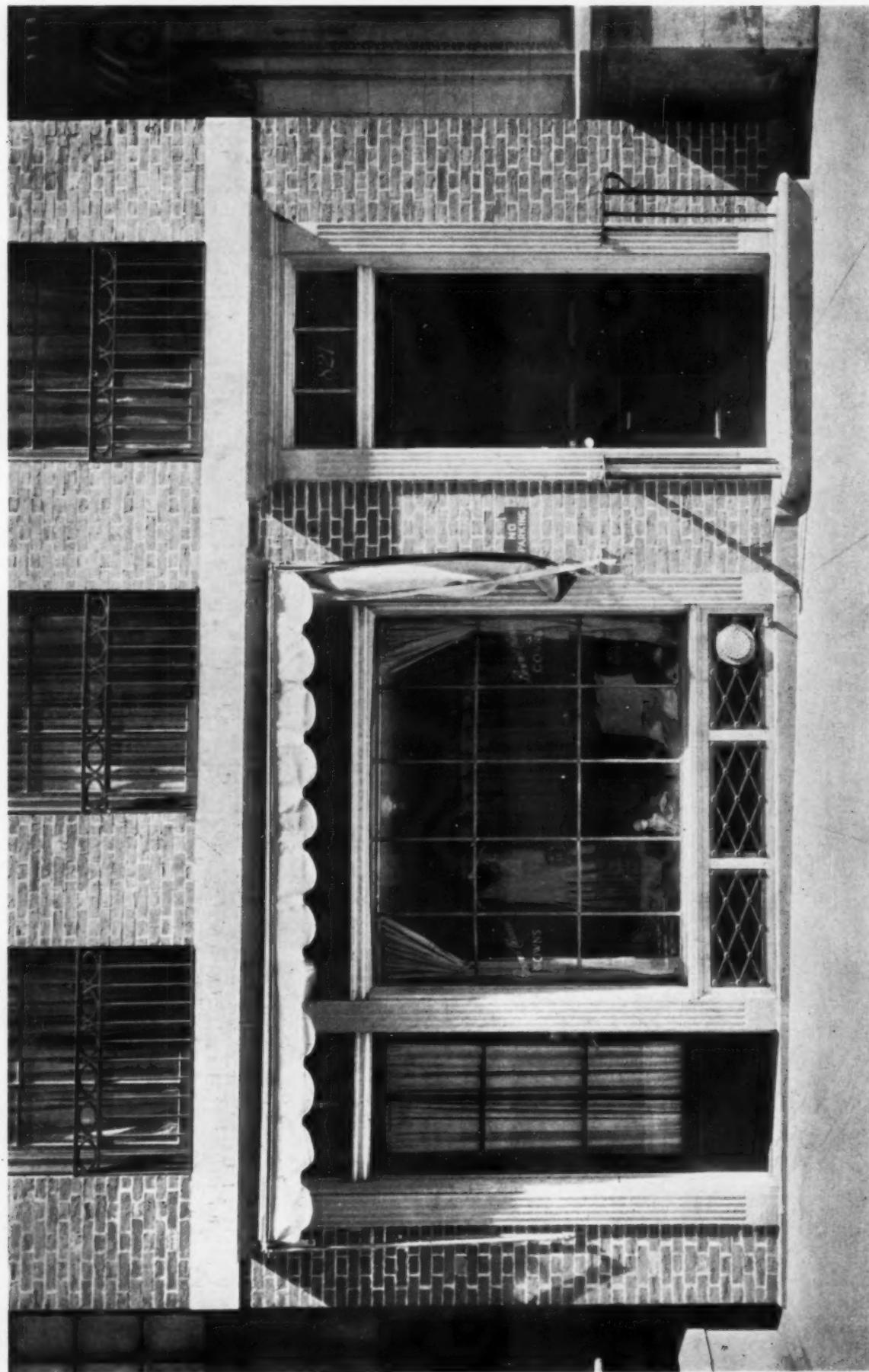


FIGURE 11. SHOW WINDOW AND ENTRANCE DOORS, 821 MADISON AVENUE, NEW YORK
MOTT B. SCHMIDT, ARCHITECT

would have been the effect if the shop windows had consisted of single huge sheets of plate glass. The scale of the whole elevation would have been seriously disturbed, and the superstructure would have conveyed the impression of being set upon a very inadequate support, formed chiefly of several enormous blanks. The shop front illustrated in Figures 9 and 10 carries a note of sharp distinction between the two lower floors devoted to shop requirements and the two remaining upper floors. The unity of the shop front composition is definitely marked,—and very appropriately emphasized,—by the fluted pilasters and the paneled entablature which form a substantial frame for the visibly commercial part of the building. In examining this shop front more at length, one becomes aware of the means by which its successful articulation has been accomplished. The entablature, with its oval rosettes and mouldings, and the triple-arched transom flanking the doorways are somewhat suppressed. In both Figures 2 to 4 and 9 and 10 the shop windows and the shop entrances, as well as the independent entrances to the upper floors, have been kept distinct and separate each from the other in the organization of the designs, and this clear recognition of their separate functions adds to the convincing quality of both the compositions.

In the alteration shown in Figures 11 and 12, the shop front is minimized in importance and subordinated to the house door, which carries the chief accent on the ground floor, while the display window and the shop door are merged into what is a secondary feature. The whole elevation, however, is thoroughly logical in treatment, which is more than may be said for the shop front illustrated in Figure 13. There, while the display window is an agreeable enough feature in itself, it is altogether at variance with its surroundings, as may be seen by comparing it with that part of the door which is



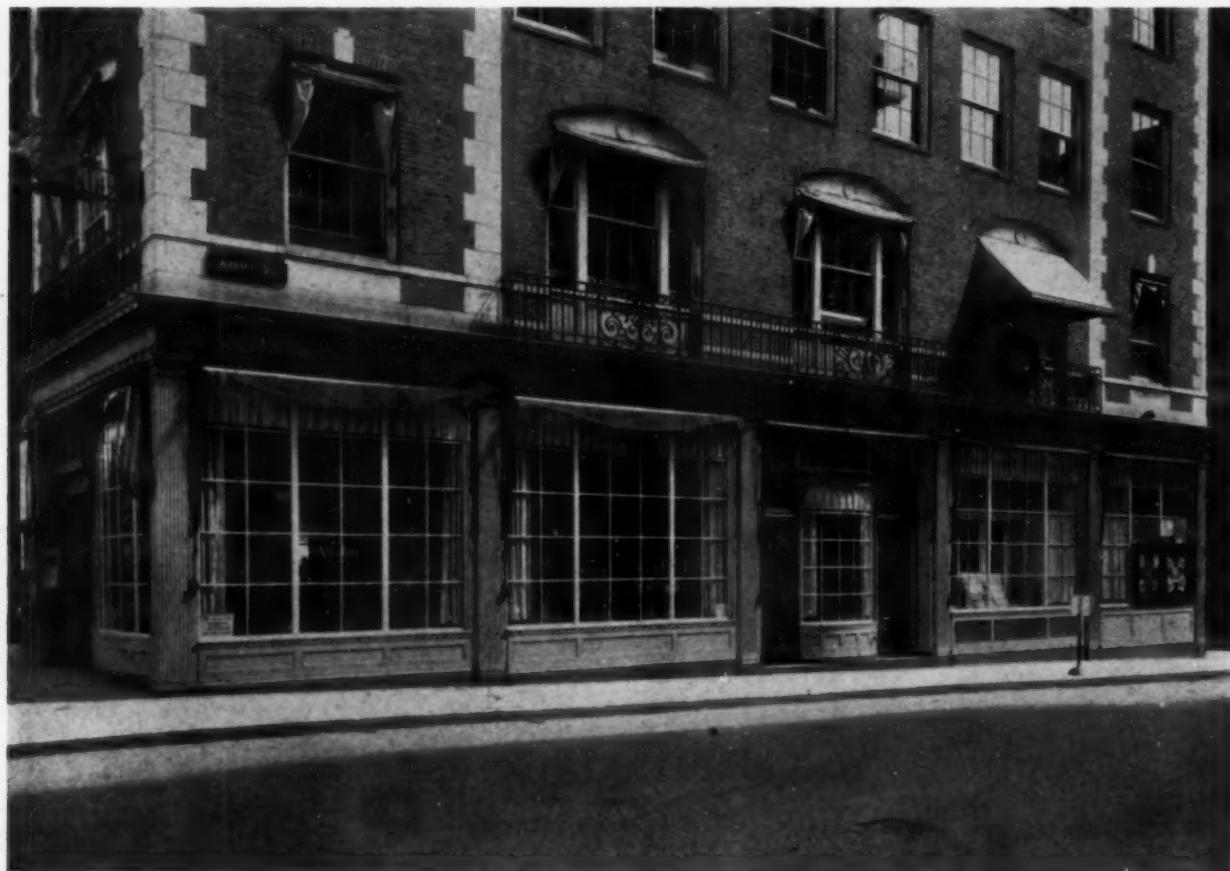
Figure 12. Remodeled Building on Madison Avenue, New York
Mott B. Schmidt, Architect



Figure 13. Show Window on Dartmouth Street, Boston

visible. It is unfortunate that a more uniform treatment was not applied to the whole ground floor, keeping door and display window as distinct units, but binding them into a single composition by means of a consistent style instead of leaving them as disorganized and unrelated items having no connection with each other and obviously out of harmony.

By way of contrast, the corner shop illustrated in Figure 14 carries immediate conviction by reason of its consistency and the clarity of its design. No one could mistake the fact that the occupancy of the ground floor by shops had been intended when the building was first planned; the whole scheme indicates this. The treatment of the shop fronts satisfies the eye and leaves none of the disquieting impression that the lower story is being crushed under a superstructure too heavy for it. Quite aside from any aesthetic considerations, the arrangement of the windows insures not only adequate display facilities but also the maximum of light entering the shops. The entrances on both fronts, with their accompanying bow windows, are agreeably disposed in accord with their relative importance, and the chief emphasis is placed upon the display windows, as it should be. Again, in Figure 15, where the entrance is below the level of the sidewalk, the emphasis is given to the bow display window, and the forward projection takes advantage of every inch of space as well as affording a pleasant

Figure 14. Building at Tremont and Avery Streets, Boston
Bigelow & Wadsworth, Architects

incident of design, unusual in appearance but altogether defensible on grounds of usefulness. The long, uninterrupted glazed space above is less happy in conception than the lower division of the shop front immediately beneath it and minimizes the scale of the general composition, which is otherwise good.

The building shown in Figure 16 is a structure of stronger scale than most of those shown in the illustrations already described. The design of this shop front, which is one of the most pleasing in the whole collection, grows out of the necessities of the situation. The window satisfies the requirement of supplying the maximum of light to the shop within, and the articulation of the glazed area affords the interest of pleasing design without lessening the display value, and also by means of the slender metal entablature and columns conveys the sense of affording sufficient support for the masonry above the opening. But for the well conceived design of metalwork and small plate glass panes, the opening would appear to be nothing but an unrelated and unfinished recess by means of which the building above had been underpinned. There is no possible objection to the use of plate glass for the windows of small shop fronts. On the contrary, there is every reason in the world why plate glass should be used for them. At the same time, there are excellent reasons for avoiding large, undivided expanses of plate glass, reasons already mentioned in



Figure 15. 126 East 57th Street, New York



Figure 16. Show Window at 90 Berkeley Street, Boston
Shepard & Stearns, Architects



FIGURE 17. 16 EAST 60TH STREET, NEW YORK
FRANCIS LENYON, ARCHITECT



FIGURE 18. 3 EAST 47TH STREET, NEW YORK
JAMES E. CASALE, ARCHITECT



FIGURE 19. TWO-STORY SHOW WINDOW AT 131 EAST 57TH STREET, NEW YORK
SHREVE & LAMB, ARCHITECTS

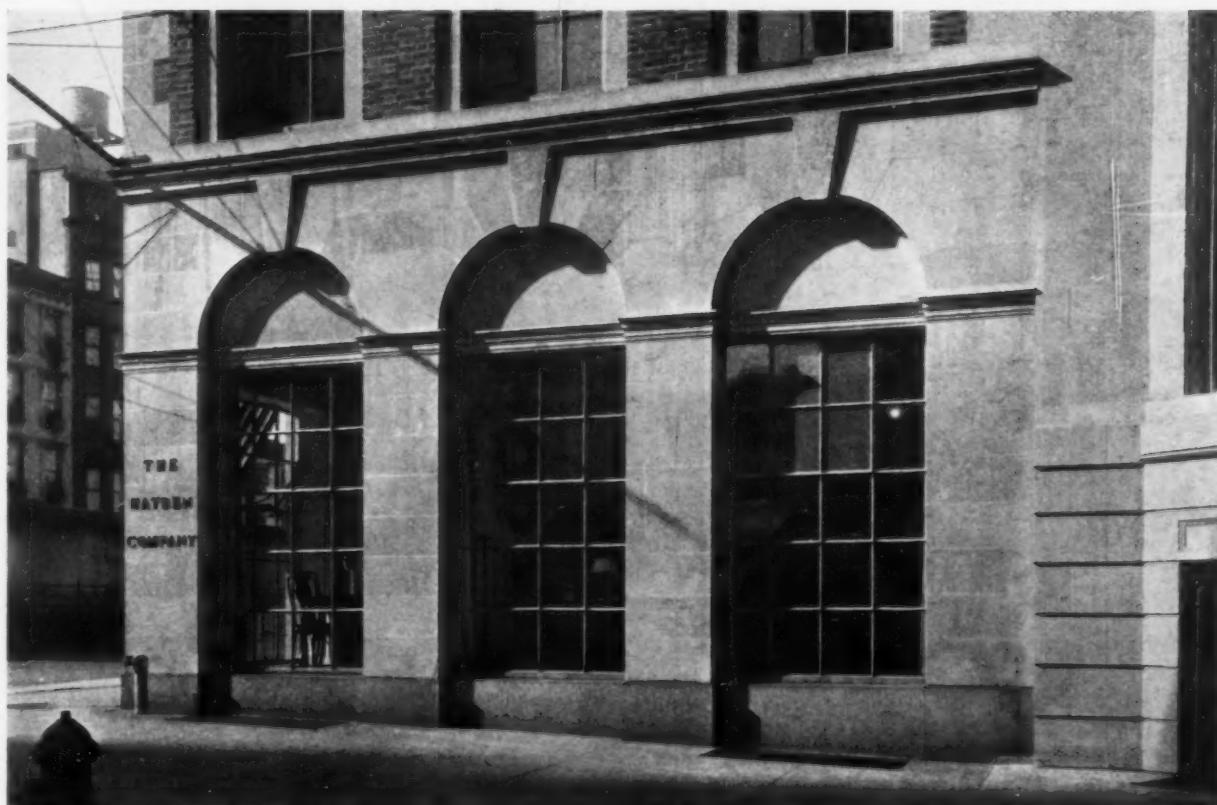


FIGURE 20. IMPORTANT SHOW WINDOWS ON TWO STREETS
GEORGE M. McCABE, ARCHITECT

this text and well exemplified by numerous illustrations. It is a detail of great importance in design.

The shop front shown in Figure 17 is of perfectly acceptable design, but, unfortunately, it suffers from having no apparent relation to the upper part of the building of which it is a part. It is worth noting, however, that in designing this shop front supports of visibly adequate proportions are placed at intervals and that the utmost possible unobstructed space is devoted to the windows. In Figure 18 the shop front is more fortunate in having a perceptible architectural relation to the facade above it, a relation assisted by the use of an iron balcony. The entrances and the display window, although quite properly kept as separate units, are bound into one coherent composition by the arch, and proper emphatic accent is given to the window.

The book shop front, shown in Figure 19, not only demonstrates the wisdom of using thin multiple glazing divisions but also brings us to another psychological consideration,—the color of the glazing bars. In this case, where the backs of books offer the chief objects of attraction to be seen by the passer-by, a subdued color of low key is manifestly an advantage, acting more or less as a foil for the color and gilding of the bindings and throwing them into greater prominence. Subdued color with a good background quality is also seen in the marble base, so that there is nothing to draw the

eye away from the wares displayed in the window. The most interesting shop front is that shown in Figure 20. The architecture is unmistakably part and parcel of the building above the ground floor, and the design is about as nearly perfect as it could be for purposes of display for the wares within the shop. Every principle of shop front psychology hitherto alluded to is successfully embodied in the manner in which the whole scheme has been carried out. Another point well exemplified in this shop front is the desirability of keeping the windows free from an ostentatious and confusing display of gilt lettering on the glass. The goods in the display window are naturally the objects of attraction, and if the goods are well and attractively arranged they will naturally draw the attention of those who pass along the street. The name of the shop can be placed beneath the window or in some other position where it will be plainly visible without being spread in bold letters across the glass, where it is almost inevitably a source of serious distraction.

Designing shop fronts, in fact, offers many compensations which more than atone for the small amount of profit which it involves. Among them is the satisfaction which follows every triumph over difficulties which threatened frustration, and another comes with the satisfaction which observation of good architecture always brings,—particularly when it is placed where it must frequently be seen!



Figure 21. Shop Front Showing Interesting Arrangement of Large and Small Panes

William Stanley Parker, Architect

INTERIOR ARCHITECTURE

The Wheeler-Beecher House, Bethany, Conn., Built 1805

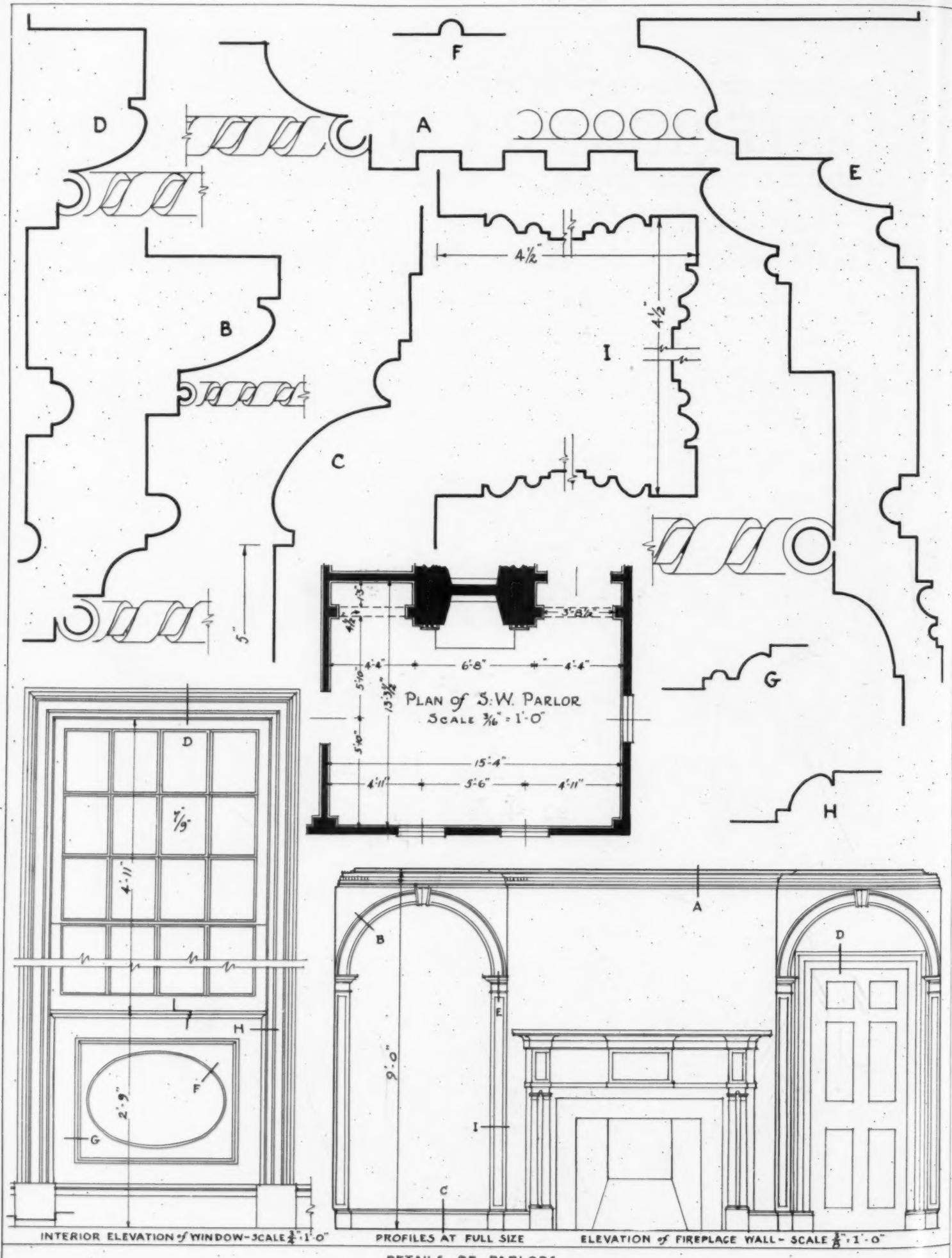
David Hoadley, Architect

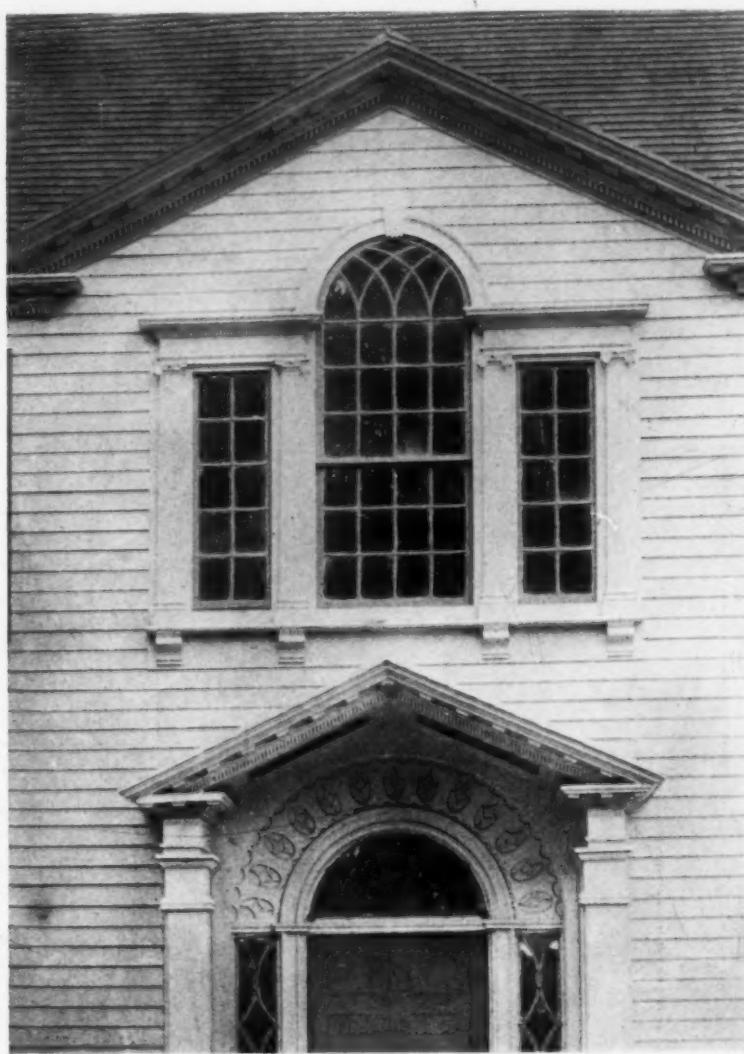
Measured and Drawn by Myron Bement Smith



This house is on the main road between New Haven and Waterbury. David Hoadley, the builder, was one of the most accomplished designers of the vicinity. He was a native of Waterbury and apprenticed to Bulfinch while the latter was building the old city hall of Hartford. The United Church on the Green at New Haven is Hoadley's best monument, a perfect example of early American architecture. A porch from a house by him but now demolished is in the Metropolitan Museum, New York.

At either side of the hall of the Beecher house are parlors of identical plans. The only variation in the decoration of these rooms is in the treatment of the mantelpieces. The rope mouldings were favorites of Hoadley; he evidently must have owned a lathe for turning them in various sizes.





WINDOW DETAILS

THE WHEELER-BEECHER HOUSE, BETHANY, CONN.

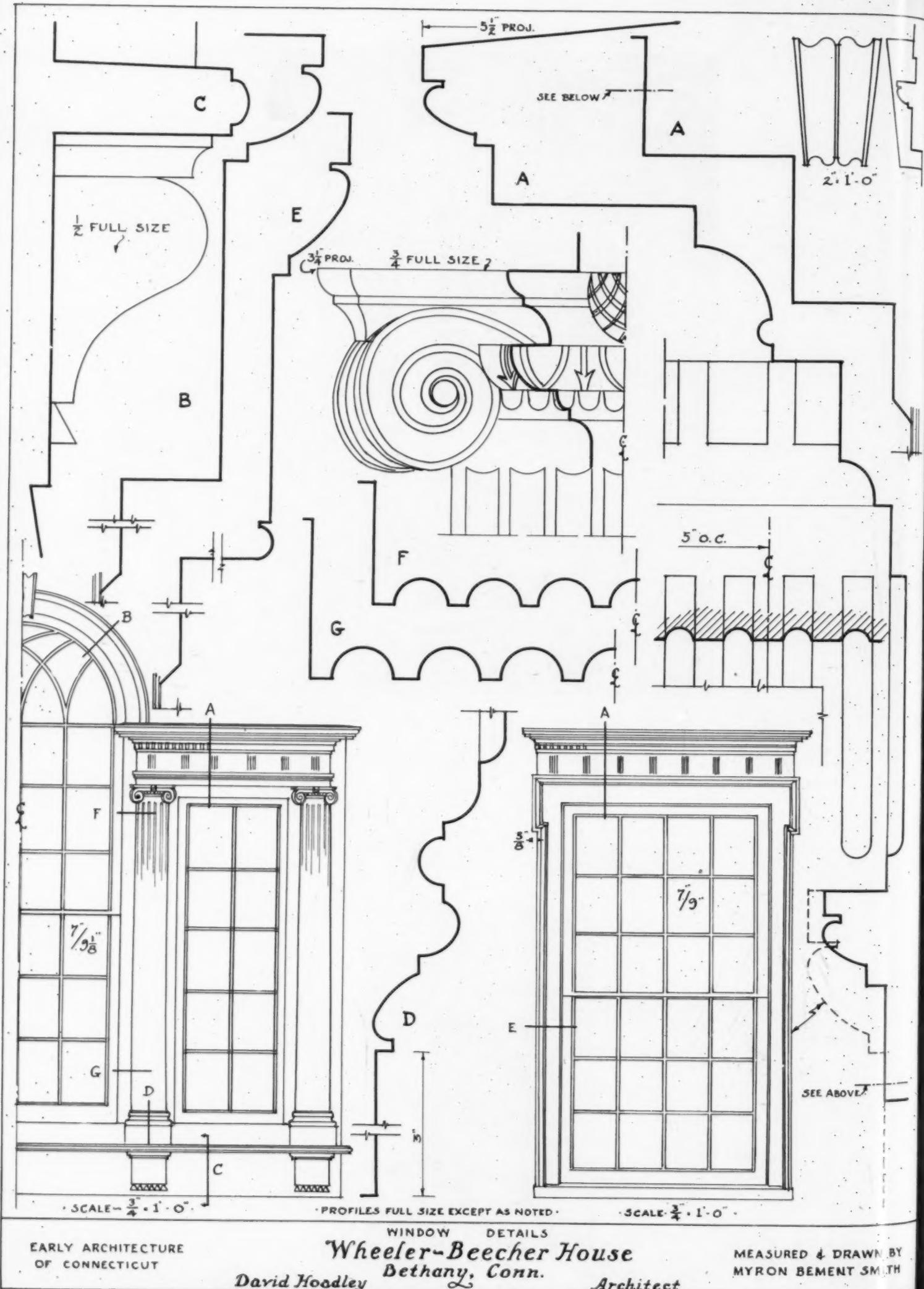
BUILT 1805

DAVID HOADLEY, ARCHITECT

Measured and Drawn by Myron Bement Smith

The architrave over the Palladian window repeats that used on the other windows of the facade. The spring line of the arch coincides with the ceiling line of the upper hall, a fact that is quite ingeniously made almost inapparent by means of black paint applied to a panel set in behind the glass.





EARLY ARCHITECTURE
OF CONNECTICUT

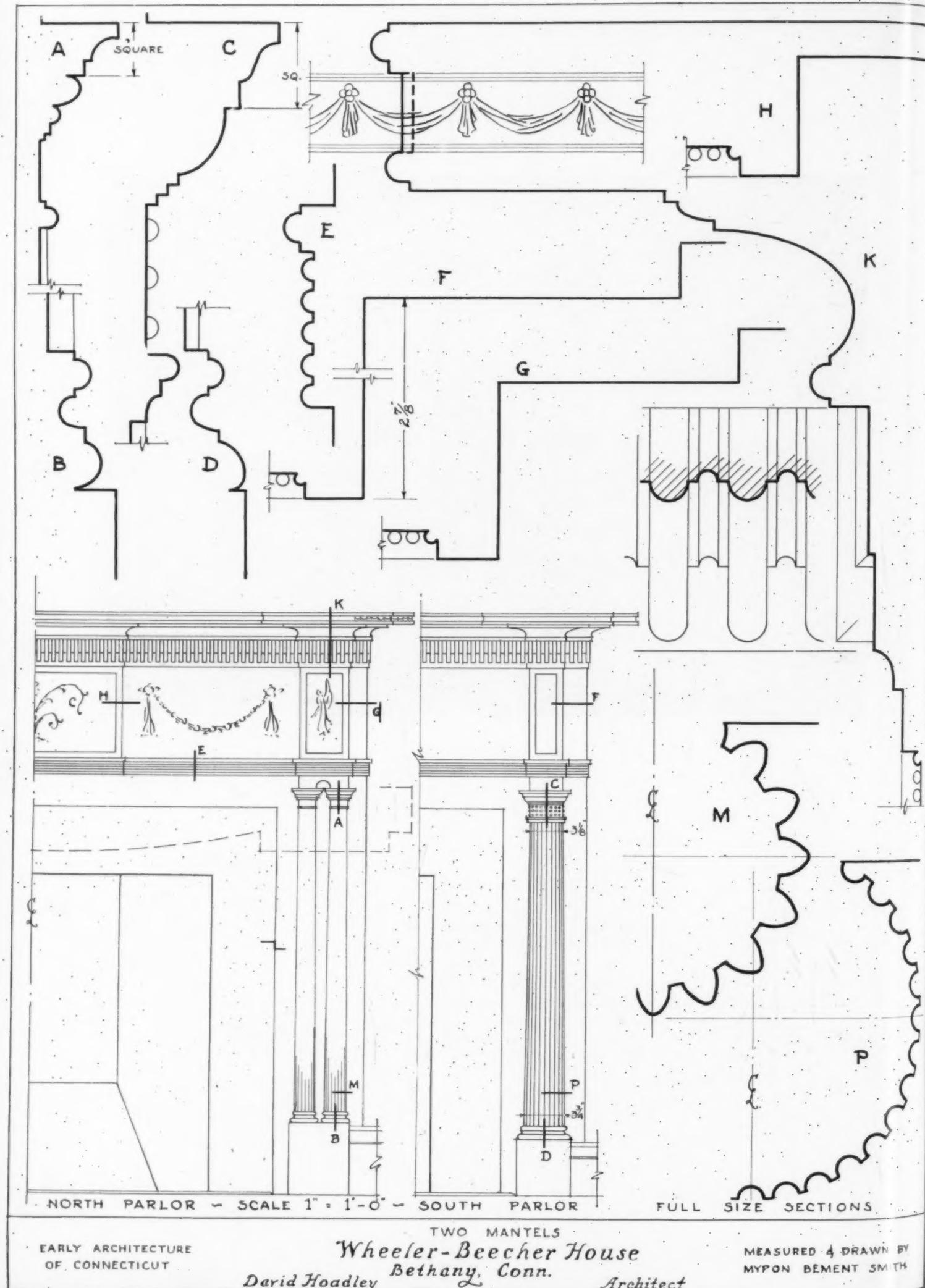
WINDOW DETAILS
Wheeler-Beecher House
Bethany, Conn.
David Hoodley Architect

MEASURED & DRAWN BY
MYRON BEMENT SMITH



NORTH PARLOR MANTEL
THE WHEELER-BEECHER HOUSE, BETHANY, CONN.
BUILT 1805 DAVID HOADLEY, ARCHITECT
Measured and Drawn by Myron Bement Smith

The plate shows one of the two mantels, one in either parlor, that are the same excepting for the variation of columns. The papier mache ornament is not very successful and might well have been omitted. The north parlor mantel, with the coupled columns, is the more effective of the two.

EARLY ARCHITECTURE
OF CONNECTICUTTWO MANTELS
Wheeler-Beecher House
Bethany, Conn.
David Hoadley ArchitectMEASURED & DRAWN BY
MYRON BEMENT SMITH



BALLROOM MANTEL

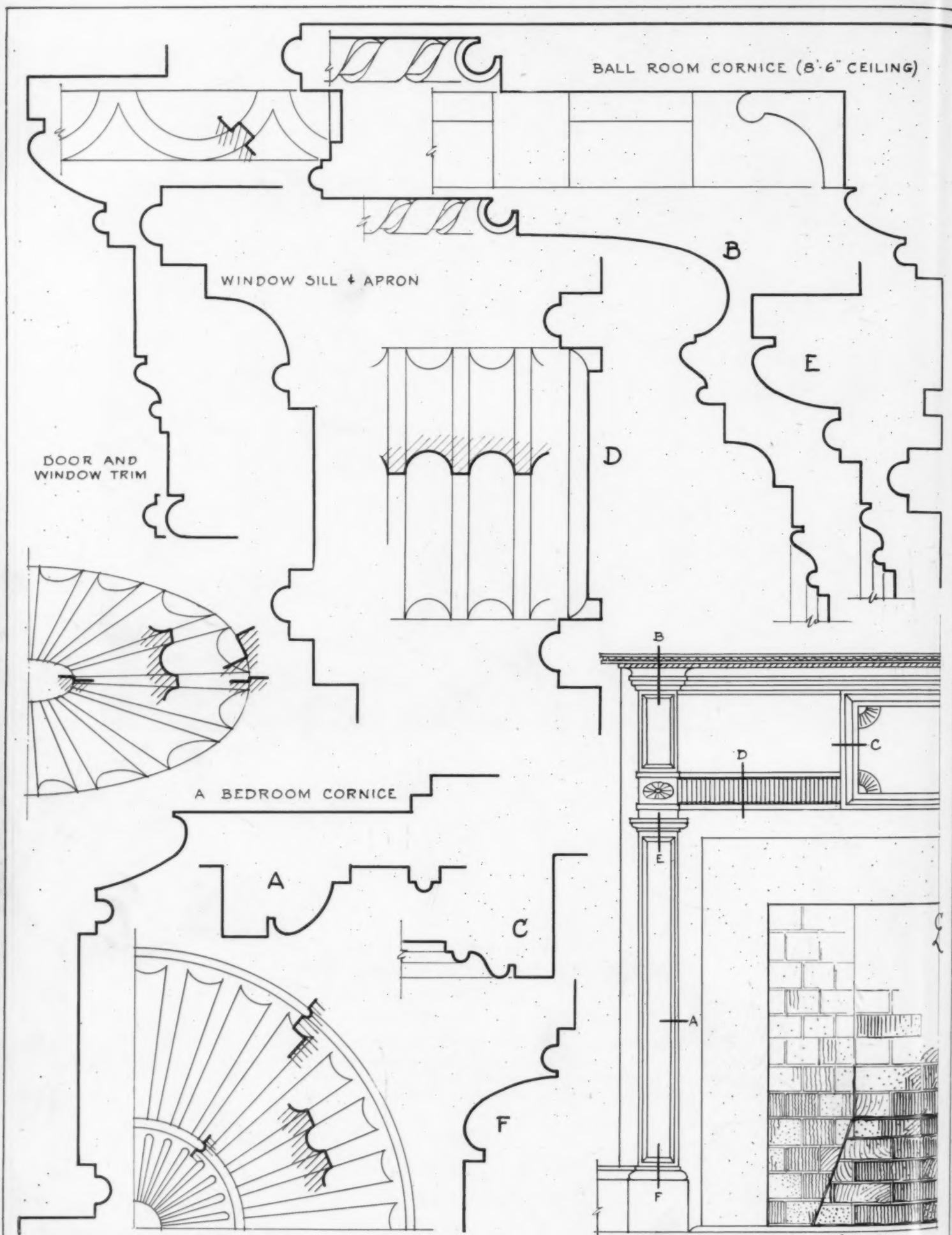
THE WHEELER-BEECHER HOUSE, BETHANY, CONN.

BUILT 1805.

DAVID HOADLEY, ARCHITECT

Measured and Drawn by Myron Bement Smith

The ballroom is in the ell, over the kitchen and storerooms. It is a long, low ceiled room with two fireplaces, one at either end. The mantels are identical. A permanent seat is built along the side of the room. The cornice of the ceiling, owing to its beauty and delicacy, is worthy of study.



EARLY ARCHITECTURE
OF CONNECTICUT

MEASURED & DRAWN BY
MYRON BEMENT SMITH